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DEVELOPMENT ALTERNATIVES, INC. JO # 44 WATER USERS ASSOCIATIONS (WUAs) IN MIDDLE HELMAND & HERAT FINAL REPORT

Report for RAMP-CLIN 0002-JO# 44-DAI

**RAMP/DAI
JUNE 2006**



Final Report Job Order # 44

Reporting Period: 1 October 2004 –31st May 2006

Water Users Associations (WUAs) in Middle Helmand & Herat

In Reference To:

RAMP Job Order # 44

**Helmand Institution Building and Advisory Services in Support of
Alternative Livelihoods Campaign, Under CLIN0002: Physical
Infrastructure Construction or Repair**

Submitted to:

Chemonics International
RAMP Program Office
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31st May 2006

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Table of Contents

Executive Summary	2
Pictorial	4
Background	18
Why WUAs in Afghanistan?.....	19
Methodology	20
Institutional Model	22
WUAs in Helmand	23
Injil Canal WUA	23
Training of the Management Board Members.....	26
Expected Results	26
Projections for the Future	27

List of Appendixs

CHARTER OF WATER USERS' ASSOCIATION.....	28
INTERNAL REGULATIONS OF WATER USERS' ASSOCIATION	48
TRAINING MANUAL FOR WATER USERS' ASSOCIATION TRAINERS IN THE RAMP	59
PREFACE AND ACKNOWLEDGEMENTS	61
TRAINING MANUAL FOR WATER USERS' ASSOCIATIONS IN THE RAMP PILOT.....	82
REPORT OF THE RESEARCH ON CURRENT IRRIGATORS' SOCIAL STRUCTURE	124
REPORT OF THE RESEARCH ON CURRENT IRRIGATORS' SOCIAL STRUCTURE	138
Maps.....	169

Executive Summary

Participation of water users and irrigators in irrigation management has become an important aspect of the development and sustainable use of water resources and infrastructure in Afghanistan. The need for participatory irrigation management became even stronger in the face of severe shortage of government resources to finance the repair, operation and maintenance of the irrigation systems destroyed during twenty-three years of war.

The program to develop Water Users Association (WUAs) was initiated in Afghanistan in November 2004 through a project funded by USAID and managed by DAI and RAMP/Chemonics. The project began as a pilot activity in Middle Helmand using Nad-i-Ali and Marja districts as target areas that are irrigated from the Boghra Canal. Building on the experience gained in Helmand the program was initiated in Herat in November 2005 to develop WUA in the Injil District on the Injil Canal.

Water Management and maintenance of irrigation systems in Afghanistan are done by the *Mirabs*. The *Mirabs* are the water masters elected by the water users to supervise water distribution, system maintenance and resolution of disputes among the water users. However, the *Mirab* system does not have the legal statues and organizational/institutional capabilities to effectively respond to the emerging needs of the water users, implement necessary changes and conduct effective O&M of the irrigation system.

A WUA is established by the water users and is owned by them. It serves as an independent and legal entity that operates autonomous of government control. It possesses the authority and powers to distribute water for irrigation and is responsible for operations and maintenance (O&M) of irrigation and drainage systems. It also has rights to charge fees for services and collective action.

The Mirab system is used as the basis of the WUAs. The Mirabs have been doing the same things a WUA would do but in a less advanced way that the Mirabs are incapable of doing. Moving towards a WUA system is not only an extension of their capacity, it is also and more an extension of their authority and power.

DAI's WUA development program inspired the revision of the Water Law by the Ministry of Energy and Water to include enabling provisions for the establishment of WUAs. The Charters and By-Laws, based on the Water Law, grant the WUAs full authority for distribution of irrigation water, O&M of irrigation and drainage systems, collective action, and collection of fees and effective utilization of funds.

The underlying idea for establishment of WUA is also participation of water users in efficient water use for agricultural production and improved irrigation system maintenance. WUA is a non-profit entity structured to facilitate representation of the water users, transparency, and accountability of funds. The governing bodies of the WUA such as the General Assembly and Management Board are run by elected representatives of the water users. The water users elect Assembly Members who in

turn elect Members of the Management Board. The Management Board appoints a General Manager who has the authority to recruit personnel, overseas the distribution of water, appoint Mirabs, and carry out O&M and planning and implementation canal and distribution system improvement.

The revenues of the association come from fees, contributions and commitment of land owners and water users. The Budget of association which is prepared by the General Manager becomes effective after approval by the Management Board and General Assembly. The Board approves guidelines for the authority and limit of expenditures by the General Manager. The General Manager will prepare and introduce annual income and expenditure to the Board for its approval which is then met with the approval of the General Assembly.

The WUA program in Helmand progressed to a level where the water users elected their representatives to the General Assembly of the association. However, due to critical security problems the program was discontinued in Helmand and moved to Herat.

In Herat, the program advanced to a stage that representatives of the water users to the General Assembly were elected who then proceeded to elect the Members of the Management Board and its Chairman. The DAI team provided training to the Management Board Members to familiarize them with the Charter and By-Laws of the association. The Injil Canal WUA is now awaiting formal registration of their association which will be granted after the revised Water Law is approved by the Cabinet or Parliament. The designated Ministry that will have authority for the registry of WUA has not been designated as yet.

An important aspect of the program was training of water users on how to run the association. Earlier this year the DAI team received extensive training as trainers. The team produced two Training Manuals one for Trainers and one for water users. The training manuals were used in the training of the Management Board Members of the Injil Canal WUA in April 2006.

One of the major constraints we faced at the beginning was lack of clear legislation in the laws of the country for the establishment of WUAs as legal entities. However, this obstacle was removed with the inclusion of new provisions into the Water Law that allowed for the establishment of WUAs. The Water Law was debated at the ministerial level and is waiting approval from the High Water Council which is headed by the Vice President. DAI's Institution Building team was part of the revision committee.

The Water Law now allows for the establishment of WUAs by water users.

Pictorial

WUA Development Program, DAI/RAMP/USAID October 2004 – May 2006



Management Board Members of the Injil Canal WUA Elected
on 9 April 2006, by the General Assembly Members



Tawab Assifi, Team Leader, Speaking to the GA members of the Injil WUA
about the Election of Management Board Members



General Assembly Members of Injil Canal
in a training workshop



Mr. Zakiri, Director of Irrigation Directorate, Speaking to the GA members
of the Injil WUA about the Election of Management Board Members.



General Assembly Members of the Injil Canal WUA
at the Training Workshop held on 9 April in Herat City



General Assembly Members of the Injil Canal WUA
at the Training Workshop held on 9 April in Herat City



The General Assembly members in a heated discussion on the election on Management Board Members



A Training Session, Management Board Members



A Training Session, Management Board Members



Meeting with Water Users in Injil (Low Stream), Herat, October 2005



Discussion with Water Users in Helmand, January 2005



Discussion with Water Users in Helmand, January 2005



A consultation of our researchers with the Mirabs and water users in Marja in Helmand Province, January 2005



Tawab Assifi, Team Leader, speaking at the Workshop on WAUs in Afghanistan, February 2005, Ministry of Energy and Water Resources, Kabul



John Priest, Director of Infrastructure RAMP, speaking at the Workshop on WAUs in Afghanistan, February 2005, Ministry of Energy and Water Resources, Kabul



Work Shop Participants



Dr. Steven Romanoff, WUA Specialist with the DAI, Giving Presentation



Dr. Thilo Hatzeus, WUA Special & Agro-Economist Consultant in the Ministry of Energy and Water Resources, giving presentation.



Dr. Puspa Raj Khanal, WUA Specialist with FAO, Giving Presentation.



Abdul Basir, Deputy Team Leader, Talking in the workshop, February 2005, Ministry of Energy and Water Resources



Dr. Abdul Hakim, Lawyer, giving presentation



Discussion with the staff of the Directorate of Irrigation in Heart, October 2005



Discussion with the Director of Irrigation in Herat, October 2005



Discussion with the water users in Herat, November 2005



Discussion with the water users in Herat, October 2005



GIS Team Collected data on the Injil Canal, December 2005



GIS Team Collected data on the Injil Canal, December 2005



Engineer Tawab Assifi, Team Leader, in a WUA study visit to India, September 2005



Engineer Tawab Assifi, Team Leader, in a WUA study visit to India, September 2005

Background

Job Order #44 encompasses the establishment of Water Users Associations in Helmand and Herat provinces.

The program to establish Water Users Associations (WUAs) in Nad-i-Ali and Marja districts in Middle Helmand province began on 1st November 2004. The program progressed up to a level when the water users in Nad-i-Ali and Marja elected their representatives for the General Assembly of their WUAs. However, due to security conditions the Helmand program was discontinued in July 2005. A similar program was initiated in November 2005 in the Injil Canal located in Herat province, and continued until end of April 2006 resulting in the formation of the Management Board by the General Assembly.

One of the objectives of establishing WUAs is to empower water users to manage their own systems and pay for the cost of water delivery to their farms.

WUAs will be established on the basis of the Model Charters that were developed for Nad-i-Ali and Marja irrigation systems in Helmand and the Injil Canal command area in Herat. Extensive surveys were undertaken for determining the location and size of water users' communities and farmland areas under the command of Injil Canal irrigation system. GIS maps and field GPS to surveys of tertiary irrigation canal systems were prepared. Extensive interviews, consultations and agreements were made with Mirabs, water users' representatives and landowners. Based on this participatory approach, the Model Charters were developed for particular areas selected by water users wanted.

Why WUAs in Afghanistan?

Water Management and maintenance of irrigation systems in Afghanistan are done by the *Mirabs*. The *Mirabs* are the water masters elected by the water users to supervise water distribution, system maintenance and resolution of disputes among the water users.

However, the *Mirab* system does not have the legal personality and organizational and institutional capability to efficiently respond to the emerging needs of the water users, implement necessary changes and conduct effective O&M of the irrigation system.

A Water Users Association is established by water users. It serves as an independent and legal entity with full autonomy and authority. WUAs have the power for distribution of irrigation water, O&M of irrigation and drainage systems, collective action, and collection of fees and effective utilization of funds.

In the irrigation sector we are witnessing a shift from labor intensive to cash intensive management that requires new organizational and management skills that can be better handled by WUAs.

Moreover, irrigation systems face problems from Environmental degradation, physical damages and weak public and private sector contribution. The WUAs will enable the water users, through effective collection and solicitation of funds, to address these problems, ensure more transparency and accountability that will help attract private sector investment in the irrigation sector.

Also, *Mirabs* at various levels are usually dominated by local power structures to the detriment of water users. In a WUA the water users are vested with the legal authority, that the Water Law and the WUAs Charter grants them and enable them to prevent this abuse.

The following table summarizes how a WUA program can surpass the existing *mirab* system.

Current Situation	WUA
O&M: mirabs are effective, but the continuing need improvements and rehabilitation is beyond their capacity to mobilize resources and manage work	Best able to implement and manage sustained improvements for O&M and rehabilitation
Trust: water users place very great emphasis on trust; there is some accountability through shuras; but mirabs mix use payments for public good and use for their income	WUAs are very good at accountability and will reduce abuse
Equity: there are pronounced differences	WUAs are very good at equity issues

in water availability in the systems

Investment: payments vary enormously within country and are only sufficient for minimal maintenance

Able to participate in generating resources

Technical aspects: mirabs are good implementers of traditional knowledge and may have difficulties absorbing new ideas.

Associations can draw on better educated members.

Government planning: mirabs have an influential role.

Most legitimate representative of people's interests in water management.

A WUA will also perform the following functions.

- Represents water users and farmers to government and civil society;
- Improve water management and agricultural performance through better O&M;
- Bring in equity, better governance and accountability, participation and involvement;
- Mobilize and use outside resources for rehabilitation and system improvements;
- Reduce government expenditures;
- Reduce water-related conflicts and enhance dispute resolution;
- Participate in land and water planning and management;
- Participate in agricultural development and link to extension;
- Cope with social and natural emergencies;
- Maintain water quality and environmental conservation;

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Methodology

A number of methodological issues shaped our approach to WUA development in Afghanistan. They are as follows:

One, Afghanistan already has a long tradition of organized irrigation water management that is the responsibility of the *Mirabs*, as mentioned above. Therefore, we did not start from scratch but used the existing institution and practices as the bases of WUA.

Two, the DAI' project was the first of its kind in the country.

Three, the wars had created a gap between the government and water users, resulting in unclear roles of the various stakeholders.

Therefore, there was a need for intensive research and study to determine the possibility and legal basis of establishing WUAs. Also, field and GIS researches were needed to decide on the institutional model and determine the boundaries of the Canals and its layouts.

To achieve these, DAI formed an Institution Building Team to implement the program. The team comprised of a lawyer, sociologist, irrigation engineer, agriculturist and GIS specialist.

We adopted a participatory approach by involved water users and Mirabs in the collection of data, consultations with various stakeholders and in formulation of the WUA model.

The DAI team undertook the following activities in implementing the program to develop WUAs.

- Reviewed the existing policies, laws and regulations to determine the legal aspects of developing associations.
- Reviewed the existing institutional roles and responsibilities for water management in the region to determine the scope of the tasks ahead of the WUA.
- Surveyed the irrigation system and produced maps showing the layout of the irrigation system;
- Produced statistical information on the size of land and families using water from the Canal;
- Recommended new Institutional Model for Sustainable Water Management;
- Recommended New Legislation for establishing WUAs;
- Built Consensus for New Institutional Model, Legislation and Financing Mechanisms;
- Drafted New Laws, Implementation Regulations, and Charter for the proposed Institutional Model;
- Clarified roles and responsibilities of all stakeholders in the irrigated agriculture sector in the Middle Helmand Area;
- Identified Financing Mechanisms for Sustainable O&M of Irrigation and Drainage Systems;

In conducting field research for collecting information and views on existing irrigation water management system the team adopted techniques used in Participatory Rural Appraisal (PRA) approaches.

PRA is a participatory approach and method that emphasizes local knowledge and enable local people to make their own appraisal, analysis and plans. It uses various exercises to facilitate information sharing, analysis and action among stakeholders.

PRA uses stakeholders' participation and input in determining the structure and organization of the association and its rules and procedures. This will be done through teamwork and informal interaction with local people for getting wider perspectives on

the issues. PRA is based on flexibility and does not recommend blueprints; it only attaches value to context-appropriate techniques suitable for a particular development context.

The survey and studies amounted into production of volumes of collections of data and information which gave a complete picture of the management practices in the regions. The data was systematically analyzed by our team and became the basis for the WUA model, management system and elections of the representatives to the General Assembly of the WUA.

Institutional Model

The irrigation systems and practices differ from region to region in the country. There are different irrigation systems in terms of ownership, structure and water rights practices. Therefore, WUA model need to be adapted to local conditions.

Also, another factor in determining the models has been the socio-economic aspects of the whole enterprise. In developing a model for the WUA the water users' capability and willingness to finance the admin cost of the association was one of the main considerations. Therefore, the WUA structure needs to be simple, cost effective and easy to run.

The WUA model consists of a General Assembly and a Management Board. The General Assembly includes all the elected representatives of the water users. The membership or representation to this association will be elected from among the water users for a fixed term. It will be run by the Management Board which functions as the legislative organ of the association.

The General Assembly will elect the Management Board who will then appoint a General Manager who as the head of executive board has the authority for recruitment of personnel, distribution of water, appointment of Mirabs and O&M of irrigation systems. The Executive Board will consist of a General Manger, a Deputy General Manager, a Treasurer, an Accountant, a Secretary and the Mirabs.

The Mirabs will be working under the instruction of the hydro-technical operator and will be responsible for distribution of water in accordance to operational plan, to their respective water users.

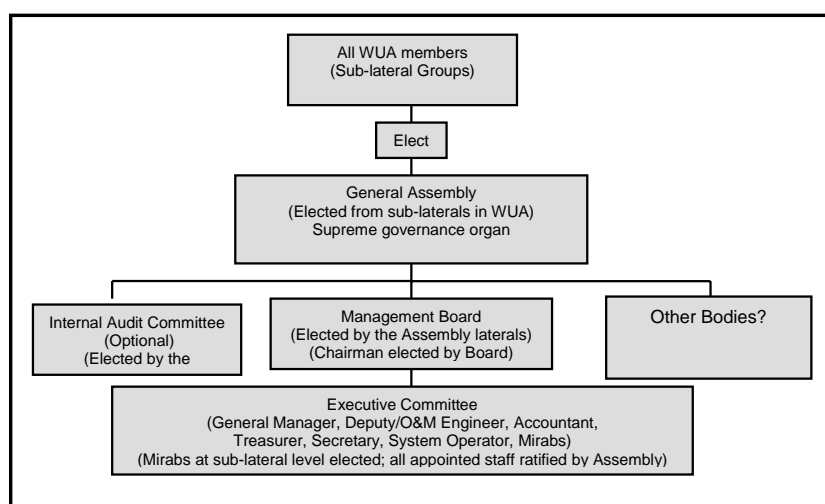
The budget of the association will be prepared by the General Manager and approved by the Board and the General Assembly. The members will fix the authority and ceiling of the expenditure by the General Manager. The General Management will prepare and present annual budget and expenditure to the Board for its approval two months before the end of the year.

The Charter and Regulations that are prepared guarantee transparency in the receipt and disbursement funds by water users. Income of the association comes through contribution and commitment of land owners and water users of the canal in accordance with Charter, By-laws and Regulations of the Association.

WUAs in Helmand

The WUA development program in Helmand began in November 2004. Two districts of Nad-i-Ali and Marja were selected as target areas for formation of WUAs, as pilot projects by DAI and RAMP/Chemonics/USAID.

Within ten months of the project, the program advanced to the level of forming General Assemblies when the water users based on sub-laterals in both districts elected their representatives. However, the project fell short of forming its Management Board in the areas due to bad security situation in the province.



DAI undertook intensive and in-depth research and study of the irrigation infrastructure, practices and socio-economic structures. It started with the use of questionnaires for gathering information on the system and practices. Interviews and group discussions were held with the water users to find out about their problems and constraints. A detail analysis of our findings are enclosed to this report as Appendix 5

Also, the DAI GIS team surveyed the Canals using field GPS and produced maps showing the layout of the canal up to the tertiary level. The information on the layout including statistics on the size of land and families are shown in the maps enclosed to this report as appendix 7.

Injil Canal WUA

The WUA development program in Injil advanced to the level of formation of the Management Board when the water users's representatives in the General Assembly elected an 11 member Management Board on April 9, 2006.

The WUA consists of a General Assembly and a Management Board. The General Assembly has 55 and the Management Board 11 elected members. The members of the General Assembly are elected by the water users of the Injil Canal; and the members of the Management Board are elected by the General Assembly Members.

The Management Board comprises of a Chairman and another 10 members for various positions.

General Assembly: Election of the Members to the General Assembly of the Association took place based on laterals along the Injil Canal. Water users from each lateral elected one representative to the General Assembly of the WUA. The Injil canal has 99 laterals that provide water to the irrigators as well as to the water users in urban areas in Herat City.

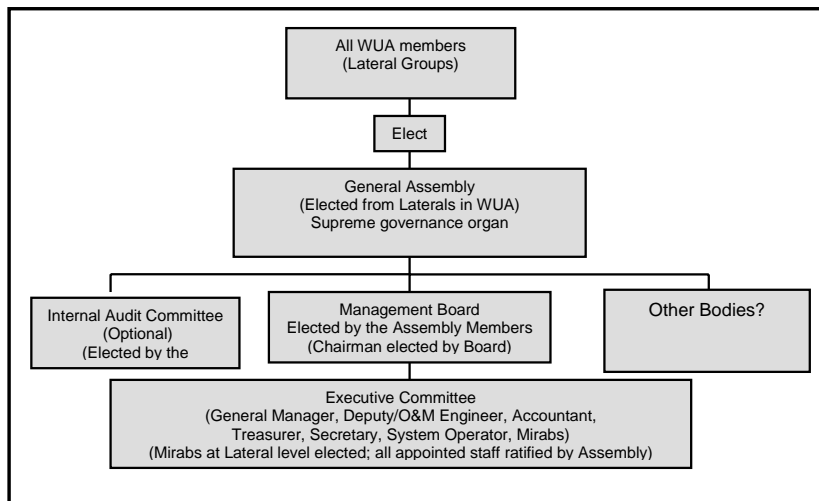
From the 99 laterals, 30 are located on the upstream, 45 on the middle stream and 24 on the downstream of the canal. And beside the irrigators in the middle section, the City Municipality, the City Prison and the Education, Agriculture and Police departments are also using water from the Canal. And each department administers a number of laterals.

A total number of 55 representatives from 99 laterals were elected to the General Assembly of the Injil Canal WUA. There are 30 and 24 representatives from up and down streams, respectively, reflecting the number of laterals at the levels of the canal, and 5 representatives from the middle stream that has 45 laterals.

The reason for this apparent disproportioned representation is to do with the composition of the water users at the Injil Canal mentioned above. Since, each government department is responsible for a number of laterals, they sent 5 representatives to the General Assembly to represent the entire middle stream.

The 55 member General Assembly is the highest organ of the Association. It makes the policy of the Association and has exclusive power over the policies, budget and election of the Management Board. It also elects the Chairman and members of the Management Board.

For more information on the General Assembly of Injil Canal WUA, please refer to the Chapter 5 of the Charter in appendix I.



Management Board: Article 33 of the Charter of the Injil Canal WUA states that “Any member of the General Assembly may nominate candidates for election as members of the Management Board and may vote at the election of members of the Board.” And Article 34 further states that “(1) The Management Board of the Association will consist of representative members. (2) The representative members will be elected from among members of the General Assembly. Those members who secure the highest votes shall be elected as members of the Management Board.”

However, the Charter is silent on the composition and number of members of the Management Board. This is for pragmatic reasons, however. It is to allow flexibility in the composition of the Board to make it adaptable to different circumstances. The decision making is based on the two systems of simple and absolute majority. The activities of the WUA will be decided based on the two-third of the total members. And decisions with respect to matters such as entering into contract and financial transactions is based on absolute majority vote, as stated in Article 39 of the Charter.

The Chairmanship of the Management Board is to be elected from among the Board Members. The Chairman of the Management Board is Chairman of the Association.

The General Assembly members discussed a number of options for the composition of the Management Board. The head and tail differences became the main cause of disagreements in discussing the options. The water users from downstream, who had been deprived of water for a long period, wanted equal representation to that of the upstream in the Management Board. The water users from upstream expressing disagreement to the proposal asserted that the size of their representation in the General Assembly is bigger than the downstream, therefore, they should lead the Association. The upstream has 30 and down stream 24 representatives in the General Assembly based on the number of laterals at both ends of the canal.

After lengthy discussions and disputations, the water users came to a consensus that became acceptable to all sides. The upstream agreed to equal representation, proposed by the downstream, with the condition of reserving the Chairmanship of the WUA to the upstream. And both sides nominated 5 members each to Management Board with

1 member from the middle stream. Thus, an 11 member Management Board was elected, including the Chairman, for the Injil Canal WUA.

Based on the Charter, “The members of the Management Board shall serve for a period of two years. Each elected member shall retire at the ‘Annual’ meeting at the end of their two year period and shall be eligible for re-election.” Article 36 (2).

For information on the Management Board of Injil Canal WUA, please refer to the Chapter 6 of the Charter as appendix 1.

Training of the Management Board Members

After the formation of the Management Board, the Institution Building Team held a 3-day training workshop for the Members of the Management Board. The workshop was held from 11 to 13 April 2006 in DAI regional office in Herat City.

The objective of the workshop was to train the Members of the Management of Board on the Charter and its by-Laws and explain to them the legal status and framework within which a WUA will operate.

The training sessions were conducted in classroom style set up. It was designed to get maximum participation from the Board Members in the discussion on the Charter and its by-Laws. As a result, the discussions inspired many positive feedbacks from trainees on a number of articles of the Charter and by-Laws based on their practices in Injil.

The training covered all the articles of the Charter and its by-Laws. The trainers explained each articles of the Charter and by-Laws and suggested Board members view on it.

Expected Results

In developing WUAs we kept in mind the challenge of sustaining participation of water users in the irrigation management. The Charter and by-Laws developed for WUAs was designed to ensure sustained participation of water users in the day-to-day activities of the WUA through their representatives in the General Assembly.

During the training of the Management Board Members for the Injil Canal WUA, it became clear that WUA is going to play an important role in solving the issues that they have not been able to resolve through the Mirab system.

Illegal use and stealing of water by the upstream water users is a common problem in the country. The current situation is the result of twenty three years of war, increase in population and development of new lands that needs irrigation water. This has necessitated the need for equitable distribution of water and re-establishment of water rights that can effectively be done by the water users themselves within the legal framework of the WUAs.

WUAs will enhance water users' capability to bring and support positive changes. In the past, water users were afraid of any change as it may have only benefited a few. The WUA works on the basis of a Charter and its By-laws that are approved by the General Assembly composed of the representatives of the water users. The WUA will function and makes its decisions by a Management Board elected by the General Assembly.

The WUA in Injil Canal will help resolve the head and tail differences amicably and pave the way to equitable distribution of water. Traditionally, the upstream water users had been taking more water than their share would allow. This had left almost 2000 acres of land in the down stream area unirrigated for years.

Projections for the Future

The problems that were mentioned in the above are common in the country. The water users are facing immense problems in irrigation water management due to destroyed irrigation infrastructure and weak organizational capability. WUAs bring new hope for the revival of agriculture in the country by restoring and improving the irrigation system and providing better and sustained irrigation water management and maintenance of the irrigation and drainage system.

The irrigation systems in each region of the country have their own water rights regime, physical characteristics and nature of ownership. Thus, WUA model need to be adapted to local condition. It is imperative that wide ranging research and surveys are carried out with the participation of the local water users before recommending a WUA model for each region.

APPENDIX I

CHARTER OF WATER USERS' ASSOCIATION

Injil Canal, Herat Province

**INSTITUTION BUILDING AND ADVISORY SERVICE
OF
DEVELOPMENT ALTERNATIVE INC.**

&

RAMP/Chemonics/ USAID

May 2006

TABLE OF CONTENTS

Chapter One: General Provisions	
Chapter Two: Objectives, Powers and Functions of the Association	

Chapter Three: Membership	
Chapter Four: Organizational Structure	
Chapter Five: General Assembly	
Chapter Six: Management Board.....	
Chapter Seven: Property of the Association.....	
Chapter Eight: Delinquencies and Fines.....	
Chapter Nine: Reorganization, Merger, Dissolution	
Chapter Ten: Miscellaneous Provisions	

CHAPTER ONE

General Provisions

Article 1: Name of the Association

- (1) Name of the association is Injil Canal Water Users Association (hereinafter referred to as “the Association”).
- (2) This Charter regulates relationship between water users who irrigate from main canal and have voluntarily formed an organization for their common good and effective operation and maintenance of their irrigation system.
- (3) It is binding on members after ratification by the General Assembly of members and registration in the Justice Ministry or the Ministry of Energy and Water as the regulation provides.

Article 2: Seal and Logo

The association shall have its own Seal and Logo.

Art. 3: Office Address

The place of activities of the Association is in district of Injil of Herat province and its office address is as follows:

Article 4: Area of Operation and Maintenance

(1) The area of operation and maintenance of the Association covers up to 4000 hectares of land that is irrigated from lateral 1 to 99 of the Injil Canal, which is comprised of 47 sub-laterals.

(2) The transfer of responsibility of operation and maintenance of irrigation water facilities from canal intake, conveyance and delivery to the water users shall be determined by a memorandum of understanding between the Association and authorized Government Department.

Article 5: Status of the Water Users' Association

The Water Users' Association shall be a legal entity in the form of a non-profit corporation.

Article 6: Definition of Terms

In this Charter, unless the context otherwise requires:-

- (a) 'area of operation' in relation to water users association means a contiguous block of land under the hydraulic command of an irrigation system;
- (b) 'hydraulic command' means an area irrigated or capable of being irrigated from a water conveyance system;
- (c) 'charge' means a sum of money determined by the Association to cover salaries of employees, operation and maintenance costs;
- (d) 'conservation' in relation to a water resource means the efficient use and saving of water, achieved through measures such as water saving technologies, efficient water application method, water demand management and water rationing;

- (e) 'financial year' means a year commencing from the first of the Hijri Shamsi calendar year to the end of the same year;
- (f) 'irrigation systems' means such major, medium and minor irrigation water facilities for collection and distribution of water for irrigation including reservoirs, water conveyance facilities, diversion and intake systems, open channels, pipelines and the like;
- (g) 'land owner' means a person who owns land under the hydraulic command of an irrigation system.
- (h) 'maintenance' means execution and continued maintenance and repair of the irrigation and drainage systems as they are designed and constructed. Maintenance shall be according to appropriate standards and specifications such that the system is operated for proper distribution and delivery of water to the farm land.
- (i) 'operational plan' means a schedule of delivery of water with details of the volume and duration of supplies drawn up for the regulation of irrigation and delivery in the command area of the irrigation system;
- (j) 'outlet' means an opening constructed in main canal/ branch canal/ distributary canal and reservoir which passes water into a water course or directly onto any land;
- (k) 'watering schedule' means and includes a system of distribution of water allocation to water users by turn, according to an approved schedule indicating the day, duration and the time of supply;
- (l) 'water allocation' in relation to the irrigation system means distribution of quantity of water determined from time to time by the association in its area of operation;
- (m) 'water course' means any river or spring or water channel existing or to be constructed by the Government or by the Land Owners or by any Agency to receive, convey and distribute water from an outlet.
- (n) 'water resources' includes both surface water and sub-surface water available in aquifer (including kareez);

CHAPTER TWO

OBJECTIVES, POWERS AND FUNCTIONS OF THE ASSOCIATION

Article 7: Objectives of the Association

- (1) To promote and secure equitable distribution of water among its users;
- (2) To provide efficient operation and maintenance of the irrigation system;
- (3) To utilize water efficiently and economically to increase agricultural production;
- (4) To protect the environment and take necessary measures for conservation of water resources; and
- (5) To ensure participation of irrigators in the management of irrigation system, and ownership building ultimately leading to a system of local governance for irrigation management.

Article 8: Principal Functions of the Association

The Association shall perform the following functions that are categorized as follows:

1. Canal Operation

To prepare and implement irrigation schedule for each cropping season based upon water needs and water right.

- (a) To measure and record the quantity of water at different levels of flow in a watercourse; the times when; and the places where water may be used by any person entitled to use water from a water resource;
- (b) To supervise the distribution and use of water from a water source according to the relevant water use entitlements, by erecting and maintaining devices for measuring and dividing; or controlling the diversion and delivery of the flow of water;
- (c) To remove or arrange to remove any obstruction unlawfully placed in a watercourse;
- (d) To prevent any unlawful use of water;
- (e) To promote economy in the use of water allocated;
- (f) To prepare and keep a register of land owners;
- (g) To prepare and maintain an inventory of the irrigation system within the area of operation.

2. Canal Maintenance

- (a) To prepare a plan for the maintenance, execution, improvement, renovation and modernization of irrigation system in the area of its operation and carry out such

work of both distributary system and field drains in its area of operation with the fund of the association from time to time;

- (b) To protect water resource and prevent water being wasted;
- (c) To keep the integrity and flow capacity of any watercourse and water control structures by cleaning, desilting its channel and repairing; reducing the risk of damage to the land in the event of floods; changing a watercourse back to its designed and constructed condition where it has been altered through natural causes.

3. Collection of Funds and Maintaining Accounts

- (a) To prepare and collect water delivery charges;
- (b) To maintain accounts;
- (c) To cause annual audit of its accounts;
- (d) To maintain other records as deemed necessary by the Association.

4. Dispute Resolution

To develop procedure that all disputes relating to water right, water turn, quantity of water, timing of water, payment of charges for operation, maintenance and improvement of irrigation system, etc that may arise between members; or between a member and the Association or with other persons; or between the Association and other agencies can be resolved.

5. Other Functions and Services

- (a) To assist in the conduct of elections of the members of Managing Board;
- (b) To conduct ordinary or extraordinary General Meeting in the manner, as may be prescribed;
- (c) To uphold and implement the Charter, by-laws, rules and regulations;
- (d) To provide management services, training and support services to the Water Users Associations.

Article 9: Ancillary Functions of Associations

The Association may perform functions other than its principal functions only if it is not likely –

- (a) to limit the Association's capacity to perform its principal functions; and
- (b) not to be prejudicial to the financial position of itself or its members.

CHAPTER THREE

MEMBERSHIP

Article 10: Founding members

The founding members of the Association are the members who have been authorized by the respective participants in the service area of the Association to act on their behalf in establishing the Association. The founding members will, for purposes of arranging the first election of members of the Management Board, be considered to be the Management Board of the Association with powers and duties limited to arranging the election in accordance with this Charter.

Article 11: Eligibility for Membership

- (1) The members of the Association are those landowners who possess the right to use irrigated land and reside within the command area of the Association and irrigate their land from the main canal. If a person holds multiple parcels of land under different sub-laterals but within the same command area of the Association, he is entitled to one membership for all of his land.
- (2) Members who lease land must provide written documentation or verification by the community that the lessee intend to utilize a plot of land for an upcoming minimum of three years.
- (3) In the event that a Water Users' Association supplies canal water to a municipality or other organs of government, public entities or industries that utilizes ____% or ____ cubic metre or more of the Association's water supply, the municipality, organs of government, public entities or industrialists shall possess the right to appoint representatives to the General Assembly. These entities shall be subject to the same rights and obligations as other members of the Association.
- (4) If a person owns land within the operation area of the Association but does not want to become member is bound to pay charges for operation and maintenance as a member for the water that he gets from the same irrigation system.

Article 12: Method of Election

- (1) All eligible potential members under one lateral as a group shall convene a lateral Meeting for the purpose of electing one of them to the General Assembly of the Association.
- (2) Re-election of members to the General Assembly shall be held every two years in a Lateral Meeting. All eligible potential members within a given lateral unit of the Association may participate in the Lateral Meeting. Only eligible potential members may participate in the Lateral Meeting. Each eligible potential member shall have one vote in the Lateral Meeting.
- (3) Any eligible potential member of the Association who secures the highest number of votes among all eligible potential members shall be elected as the representative of that particular lateral to the General Assembly.
- (4) During the Lateral Meeting eligible potential members may vote to establish and approve a set of Lateral Internal Regulations. Members of the lateral hydrological unit of the Association may convene a Lateral Meeting and vote to establish and approve a set of Lateral Internal Regulations at any time thereafter. Approval of the Lateral Internal Regulations shall be by an absolute majority of all eligible

potential members (at the time of the formation of the Association) or members (after the Association has been registered).

Article 13: Requirements

- (1) A person can only be admitted as member if he is committed to pay all charges to the Association.
- (2) He is committed to follow the Charter, Rules and Regulations of the Association.

Article 14: Registration of Members

All members of the Association must communicate their addresses from time to time to the person acting as secretary of the Association, who must keep a register of the names of members and of their addresses.

Article 15: Rights of Members

Membership of the Association does not give any member a right to any of the moneys, property or assets of the Association, but subject to such charges and reasonable restrictions as are imposed by the Management Board from time to time, it only gives members the following rights:

- (a) The right to a fair share of the water;
- (b) The right to vote in elections and participate in decision making;
- (c) The right to access information about the Association including financial information;
- (d) To propose agenda items for discussion at meetings of the General Assembly;
- (e) To nominate candidates for and stand for election to the Association Management Board;
- (f) To benefit from services provided by the Association.

Article 16: Attendance at Meeting

Each member of the General Assembly can attend a meeting of the Association in person or can appoint in writing another person as his legal representative or proxy. The legal representative or proxy must be introduced by a signed letter, indicating his identity and functions. Any act done or vote cast by the legal representative or proxy is valid.

Article 17: Duty and Liability of Members

A member of the Association is bound to:

- (a) Observe the provisions of the Charter and by-laws of the Association;
- (b) Promptly pay any charges owed to the Association. His liability is limited to the amount of unpaid charges owed by him to the Association. If a member refuses to pay charges owed to the Association, the Association has the right to cut off his

water or services of the Association or to take any other appropriate action against him;

- (c) Comply with watering schedules and shall only take irrigation water in accordance with those schedules;
- (d) Ensure that he does not damage any equipment and facilities which are used or owned by the Association;
- (e) Pay the repair or replacement costs of any equipment and facilities which are damaged as a result of any willful or negligent act or omission of that member;
- (f) Provide information to the Association about their use of land and water;
- (g) Allows the staff of the Association onto their land with machines and equipment for fulfillment of works concerning the operation and maintenance of irrigation systems; and
- (h) Observe all rules for the operation and maintenance of irrigation system.

Article 18: Duty and Liability of Non-members

Any person who utilizes water from the irrigation system of the Association shall be subject to the same rules as defined under Article 17 for members of the Association.

Article 19: Termination of Membership and Re-Entry

- (1) Upon the decision of the General Assembly, the Association may terminate the membership of any person who repeatedly violates the provisions of the Charter or the Internal Rules and Regulations of the Association.
- (2) Persons whose membership in the Association has been terminated may be re-admitted by decision of the General Assembly after a probation period of one year following the termination of membership.
- (3) One person may be re-admitted to the membership in the Association three times. Any termination of membership following the third re-admittance to the Association shall be permanent.

Article 20: Resignation

A person must resign from the association if he or she sells all of his or her irrigated land or relinquishes the right to use irrigated land within the irrigation service area of the Association. In the event of land sales, before the sale the buyers and seller shall inform the Association who will be responsible for any debts to the Association owed by the seller. The buyer may only become a member of the Association if all charges owed to the Association by the seller have been paid off. In the event of relinquishment of the right to use irrigated land, before the relinquishment the owner and lessee shall inform the Association who will be responsible for any debts to the Association owed by the lessee.

CHAPTER FOUR

ORGANIZATIONAL STRUCTURE

Article 21: Structural Framework

The important organs of the association are as follows:

- (a) General Assembly
- (b) Management Board.

Article 22: Executive Personnel

Management Board may establish executive personnel in pursuance with the Internal Regulation.

Article 23: Multiple Posts

Members of the Association shall not hold multiple posts in the governing and management bodies of the Association.

Article 24: Membership in Governing Bodies

Members of governing bodies (General Assembly, Management Board, Internal Audit Committee) must be members of the Association.

CHAPTER FIVE

GENERAL ASSEMBLY

Article 25: Composition

- (1) The General Assembly is the highest organ of the Association.
- (2) The General Assembly consists of ----- elected representatives.
- (3) The representatives shall be elected by landowners of the respective laterals within the command area of the Association.

Article 26: Exclusive Power

The General Assembly makes the policy of the association and shall have exclusive power to deal with the following matters:

- (a) Defining main direction of activities of the Association;
- (b) Approval and amendment of Charter and by-laws of the association, which shall subsequently be registered and recorded at the related legal entity that the Association was originally registered at;
- (c) Approval of annual operation and maintenance plan;
- (d) Approval of budgets and irrigation charges;
- (e) Approval of annual report and accounts;
- (f) Voting on the dissolution or merger of the association;
- (g) Election of members of Management Board for specific period of time;
- (h) Removal of members of the Management Board; and
- (i) Ratification of appointments to the Executive Committee by the Management Board in the next meeting of the General Assembly.

Article 27: Other Powers

Other powers of the General Assembly shall include:

- (1) Decision on type of community work (hashar) regarding cleaning, repair of the main canal, duration and volume of work for each year;
- (2) Approval of contracts between agencies regarding construction and rehabilitation of irrigation systems;
- (3) Approval of request for credit from a related bank for repair, maintenance, rehabilitation and improvement of irrigation system if it could not be covered by the approved annual budget of the Association; and
- (4) Evaluation of other issues that need collective decision.

Article 28: Meeting

- (1) The General Assembly shall meet at least twice a year.
- (2) The final meeting of the General Assembly for any given year shall take place at least one month before the upcoming Financial Year.

- (3) Extraordinary meeting of General Assembly shall be held by the approval of Management Board as it deems necessary for considering and taking decision on periodic and emergency matters, or by a written requisition of at least 30% of the membership.
- (4) At least fourteen days prior notice shall be given to the members concerning the holding of the General Assembly Meeting.
- (5) Each representative member shall have one vote at the ordinary Annual General Meeting or any other extraordinary general meeting irrespective of the size of his or the represented members' land within service area of the Association.

Article 29: Quorum

A quorum of the General Assembly for a regular or extraordinary meeting shall consist of three-quarters of representative members.

Article 30: Decision

- (1) Decisions of the General Assembly shall be taken after completion of the quorum.
- (2) Decisions of the General Assembly shall be taken by a majority of two-thirds of all members of the General Assembly with respect to amendment of Charter of the Association, dissolution of the Association, merger or union of Association with other associations and removal of members of Management Board unless otherwise stated in the Charter. Decisions of such matter shall be recorded at related legal entities. Management Board decisions may be appealed in the next meeting of the General Assembly.
- (3) Decisions of the General Assembly shall be taken by simple majority of votes of members present with respect to exercising all other powers mentioned in this Charter.
- (4) On matters of extreme importance, the General Assembly can also call 'farmers' gathering' before deciding the matters.
- (5) General Assembly decisions shall not be subject to appeal to any governing or management bodies of the Association.

Article 31: Tenure of Office

Membership of the General Assembly shall be for two years at the expiry of which a fresh election shall be held. Members are entitled for re-election.

CHAPTER SIX

MANAGEMENT BOARD

Article 32: Qualification of candidates

- (1) Any member of the Association, subject to sub-item no 2, is eligible for election as a member of the Management Board.
- (2) Any person elected for membership in Management Board must not be deprived of political and civil rights by the decision of a competent court.

Article 33: Nomination of and voting

Any member of the General Assembly may nominate candidates for election as members of the Management Board and may vote at the election of members of the Board.

Article 34: Membership of Management Board

- (1) The Management Board of the Association will consist of representative members.
- (2) The representative members will be elected from among members of the General Assembly. Those members who secure the highest votes shall be elected as members of the Management Board.

Article 35: Appointment of Chairman

The Management Board shall elect a chairman from among themselves or from among other members of the Association. The Chairman of the Management Board shall be the Chairman of the Association, who is mandated to represent the Association in its dealings with outside agencies.

Article 36: Tenure of Office

- (1) Members of the Management Board will be elected on the basis of qualification for the job.
- (2) The members of the Management Board shall serve for a period of two years. Each elected member shall retire at the 'Annual' meeting at the end of their two year period and shall be eligible for re-election.

Article 37: Vacancy

- (1) If a vacancy occurs in the Management Board, the vacancy must be filled by a qualified member for a period equal to the remainder of the period for which the member who has vacated the office would otherwise have continued in office.
- (2) At least seven day's notice of an election must be given to all members of the Association.

Article 38: Powers and Responsibilities

- (1) Between Annual Meetings, the general management and control of the affairs, funds and property of the Association shall be vested in the Management Board, subject only to the Charter and decisions taken at the Annual Meetings, or at other extraordinary meetings of the Association.
- (2) To the competence of Management Board are the following:
 - (a) Calling of meetings of the General Assembly;
 - (b) Election of Chairman from among themselves or from among other members of the General Assembly;

- (c) Monitoring the activities performed by the executive committee of the WUA;
 - (d) Preparation of agenda of the General Assembly;
 - (e) Ensuring that the financial and accounting procedures are followed as foreseen by the Charter and by-laws of the Association;
 - (f) Resolving or taking any appropriate action with regard to any differences that is not solved by the Executive Personnel;
 - (g) Other issues determined by the General Assembly or specified by the law of the country.
- (3) The Management Board may delegate the following tasks to the Executive Personnel:
- (a) Preparation of draft budget, work plan, operation and maintenance plan;
 - (b) Recruitment and dismissal of lower ranking employees of the association
 - (c) Preparation of watering schedule based on its entitlement area, soil, cropping pattern at the beginning of each irrigation season.
 - (d) Regulating the use of water among their respective users;
 - (e) Resolution of conflict at primary level, if any, between their respective water users;
 - (f) Maintaining a register of the respective members of area of operation;
 - (g) Collection of water charges;
 - (h) Operation and maintenance of the irrigation, drainage and road systems;
 - (i) Rehabilitation of irrigation, drainage and road systems;
 - (j) Regular or extra ordinary repairs or measures often approved by the General Assembly; and
 - (k) Maintaining accounts.
- (4) The Management Board shall hold meeting at least twice per month.

Art. 39: Quorum and Resolution

The quorum for holding of meeting shall be presence of two-thirds of the total member of the Management Board. Decisions with respect to ordinary matters shall be approved by a simple majority of votes. However, decision with respect to important matters such as entering into contract, agreement or doing any financial transaction shall be approved by absolute majority of votes.

CHAPTER SEVEN

PROPERTY OF THE ASSOCIATION

Article 40: Sources of Property

The property of the Association shall consist of the following:

- (a) Infrastructure, equipment, facilities, and other property transferred to the Association in accordance with the Memorandum of Understanding;
- (a) Grants/subsidies received from Government for maintenance, development of the area of operation or emergency repairs;
- (b) Funds raised from any financing agency for undertaking any economic development activities of the area of operation;
- (c) Income from the properties and assets attached to the irrigation system within its area of operation;
- (d) Charges collected by the Association for the service rendered in connection with acquisition and delivery of water to the water users; and
- (e) Sums or property received from any other sources, in accordance with the legislative acts of the Islamic Republic of Afghanistan.

Article 41: Raising of Loans

- (1) The Management Board may raise funds by way of loans as required by it for the purpose of carrying out any of its functions under this Charter.
- (2) Whenever the Management Board proposes to raise a loan, it must give notice in writing of its intention, setting out details of the proposal. The notice must be given to every member of the General Assembly not less than fourteen days before the date of the meeting at which the proposal will be considered.
- (3) No loan may be raised without a resolution of the Management Board passed at a meeting at which not less than two-thirds of the members of the Board are present.

Article 42: Charges

The Association for carrying out its activities, achieving the objectives of the Association and performing its function, levy and collect such charges as may be prescribed from time to time.

Article 43: Reserve Fund

- (1) The Association shall establish a reserve fund and shall open a separate account to this end.
- (2) The Reserve fund shall only be used to rehabilitate or develop the irrigation and drainage system, to purchase equipment or facilities, and to cover cost of emergency situations, in accordance with the statutory purpose of the Association.
- (3) Any surplus funds remaining in the Association's balance at the end of the financial year shall pass into the Reserve Fund.

Article 44: Management of Property

The property of the Association shall only be utilized in accordance with its statutory purpose. The Management Board shall manage the property of the Association, in accordance with the mandates of the General Assembly.

CHAPTER EIGHT

DELINQUENCIES AND FINES

Article 45: Delinquencies

- (1) Whoever, without any lawful authority:
 - (a) refuses to pay service or other charges levied by the Association;
 - (b) refuses to fulfill obligations in the hashar;

- (c) damages, alters, enlarge or obstructs any part of the irrigation and drainage system, equipment, or facilities of the Association;
- (d) interferes with, increases, or diminishes the water supply in, or the flow of water from, through, over or under any irrigation and drainage system;
- (e) opens, shuts or obstructs or attempt to open, shut or obstruct any sluice or outlet or any other similar facility in any irrigation system; or
- (f) corrupts water of any irrigation system as to render it less fit for the purpose for which it is ordinarily used;

commits an offence against the Association and its members.

Article 46: Non-Payment of Service Charge

In the event of non-payment of a service charge, the Association may take the following series of actions:

1. A warning to the delinquent water user from the Treasurer
2. A fine upon the delinquent water user established by the Treasurer (or Accountant) and Mirab, to be collected by the Treasurer (or Accountant)
3. A cut-off of water supply to the user, by order of the Management Board, until the delinquent amount is paid and/or termination of the water users' membership

Article 47: Refusal to Participate in Collective Work

In the event of refusal of a water user to perform hashar duties, the Association may take the following series of actions:

- (1) A warning to the delinquent water user from the Mirab
- (2) Termination of the users' water right for the upcoming season, by order of the Management Board.
- (3) If within one week of termination of the water right a water user pays compensation for delinquency in hashar duties in labor, in kind, or in cash, the Association shall restore the water right for the upcoming season.

Article 48: Damages

In the event that a water user in any manner illegally alters or damages the irrigation and drainage system or other equipment and facilities that belong to the Association or another water user, the Association may levy a fine in addition to the cost of the repair or replacement of the altered or damaged irrigation and drainage system or other equipment and facilities.

Article 49: Interference

In the event that a water user interferes with, increases, or diminishes the water supply in, or the flow of water from, through, over or under any irrigation and drainage system, the Association may take the following series of actions:

- (1) A warning to the delinquent water user from the Treasurer

- (2) A fine upon the delinquent water user in addition to the cost of damages to other water users, to be established by the Treasurer (or Accountant) and Mirab, and to be collected by the Treasurer (or Accountant)
- (3) A cut-off of water supply to the user, by order of the Management Board, until the fine is paid and/or termination of the water users' membership

Article 50: Refusal to pay fine

Non-payment, delinquency of payment, or failure to abide by the established penalties shall constitute grounds for the following:

- (1) The Association may terminate the membership of the offender.
- (2) The Association may lay a claim suits at an authoritative court.

Article 51: Punishment under other laws not barred

Nothing in this Charter shall prevent any person from being prosecuted and punished under any other laws for the time being in force for any act or omission made punishable under any act.

CHAPTER NINE

MERGER, REORGANIZATION AND DISSOLUTION

Article 52: Re-organisation and merger

The Association may reorganize its governing and management bodies, merge with other Associations, or become part of a Federation of Associations with the approval of a two-thirds majority of all of the members of the General Assembly.

In the event that the Association reorganizes its governing and management bodies, merges with other Associations, or becomes part of a Federation of Associations, it shall draft and approve a new Charter and register it with the appropriate authorities.

Article 53: Termination

The designated Regulatory Authority may terminate the Association in the event that the Association repeatedly contravenes the laws of the country.

Article 54: Dissolution

The Association may be dissolved by a resolution passed at an extraordinary General Meeting held for that purpose, provided that the resolution is passed by two-thirds of all members of the General Assembly; and the resolution is confirmed at a further extraordinary General Meeting held not less than twenty eight days after the preceding extraordinary General Meeting by an absolute majority vote of members entitled to vote thereon.

CHAPTER TEN

MISCELLANEOUS PROVISIONS

Article 55: Approval of the Charter

This Charter is approved in a General Assembly Meeting held on -----. Names and signatures of members of the General Assembly are in the list, attached with the Charter.

Article 56: Amendment of Charter

The General Assembly may amend this Charter, provided that the resolution is passed by two-thirds of all members of the General Assembly.

Article 57: Memorandum of Understanding

Following the approval of the Charter and election of the Management Board, the Management Board shall negotiate a Memorandum of Understanding with the relevant government agency, which shall be approved or rejected at the next meeting of the General Assembly.

Article 58: Requirements for Internal Regulations

The General Assembly may approve or amend a set of Internal Regulations that conforms to the provisions of this Charter, provided that the resolution is passed by two-thirds of all members of the General Assembly.

Article 59: Lateral Unit Internal Regulations

The General Assembly may approve or amend a set of Lateral Unit Internal Regulations that conforms to the provisions of this Charter, provided that the resolution is passed by two-thirds of all Association members in the lateral unit and that the resolution is passed by two-thirds of all members of the General Assembly.

Article 60: List of Management Board Members

Names and signatures of members of the Management Board are in the list, attached with the Charter. Any subsequent changes in the composition of the Management Board shall be recorded in the Registry Office of the related Ministry.

Article 61: List of Personnel in Charge of Financial Affairs

Names of personnel in charge of financial affairs are in the list, attached with the Charter. Any subsequent changes of names in this list shall be recorded in the Registry Office of the related Ministry.

-----END-----

APPENDIX II

INTERNAL REGULATIONS OF WATER USERS' ASSOCIATION

WUA of Injil Canal

**INSTITUTION BUILDING AND ADVISORY SERVICE
OF
DEVELOPMENT ALTERNATIVE INC.**

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RAMP/Chemonics/USAID

May 2006

TABLE OF CONTENTS

1. EMPLOYEES OF THE ASSOCIATION
 - A. Appointment
 - B. Qualification of Employees
 - C. Duties of Employees
 - D. Wages of Employees
2. OPERATION OF IRRIGATION SYSTEM
3. MAINTENANCE OF IRRIGATION SYSTEM
4. REHABILITATION
5. FINANCIAL MANAGEMENT
 - A. Preparation and Management of Budget
 - B. Management of Agro-Business Contracts, Bank Loans and Other Financial Transactions
6. FEE ADJUSTMENT AND REGULATION
7. INCOME: RECEIVING AND RECORDING
8. BANK AND PETTY CASH ACCOUNT
9. EXPENSES: PAYING AND RECORDING
10. MONTHLY AND ANNUAL ACCOUNTING AND REPORTING
11. INVENTORY
12. AUDITING FINANCIAL SYSTEM
13. PUBLIC REVIEW OF RECORDS
14. METHOD OF DISPUTE RESOLUTION

This document provides internal regulations for the functions of Water Users' Association in In case of inconsistency between these regulations and Charter of the Association, the Charter shall prevail.

1. EMPLOYEES OF THE ASSOCIATION

A. Appointment

1. The Management Board may employ a General-Manager, Deputy General-Manager, Secretary, Treasurer, Accountant, Irrigation System Operator, Mirabs and such other persons as it considers necessary to perform the Association's functions.
2. The Management Board may transfer the authority of recruiting and dismissing of Irrigation System Operator, Mirabs and such other persons as it consider necessary to the General-Manager or his deputy as may be deemed necessary.
3. The appointment of employees or any change in their conditions of service and salary must be approved by resolution of the Management Board.
4. All employees of the Association will remain in office despite any change in the composition and membership of the Management Board.

B. Qualification of Employees

1. General-Manager

The General-Manager should have the following qualifications:

1. be citizen of Afghanistan;
2. be graduate from faculty of agriculture or engineering;
3. possess experience in irrigation and agricultural affairs;
4. possess good background;
5. possess experience in repair of structures of the irrigation system;
6. be knowledgeable in distribution and measurement of water;
7. be with good moral character and popular among people;
8. possess good communication skill in national languages.

2. Deputy General-Manager

The Deputy General-Manager also should possess the above qualifications.

3. Secretary

1. possesses good speaking and writing skills in national languages;
2. completed secondary education;
3. possesses strong organizational and writing skills; and
4. possesses adequate secretarial experience.

4. Treasurer

1. be citizen of Afghanistan;
2. owns land within the command area of the Association;
3. be honest, trustworthy and possess good track record;
4. submit his cash security in a bank;
5. his permanent and current residence should be within the command area of the Association;

6. be familiar in accounting daily income and expenses, and assist accountant in preparing monthly, annual financial reports and Annual Budget of the Association.

5. Accountant

1. own qualification in finance and accounting;
2. be familiar in preparation of income and expense reports;
3. be knowledgeable in preparation of daily, monthly and annual financial reports.

6. Mirabs

1. possesses very good experience in operation of irrigation system;
2. should be active, honest, just, knowledgeable, and trusted by people.

C. Duties of Employees

1. General-Manager

The General-Manager shall be responsible for performing overall administrative and managerial tasks of the association.

2. Deputy General-Manager

1. The Deputy General- Manager shall assist the Manager in the performance of his duties, act in his absence and perform any duties assigned to him.
2. May perform the duties of hydro-technical operator for operation and maintenance of the irrigation system.

3. Secretary

1. Provide secretarial and administrative services such as familiarity in computer, diary management, organization of meetings and any administrative support necessary to ensure efficient working of the Management Board;
2. Serve as focal point for all personnel enquires to the Management Board;
3. Maintain an appropriate filing system to ensure that documents and information are readily available. Copies of minutes and reports are drafted and made available to all Board members;
4. Liaise with other personnel as appropriate to ensure good coordination;
5. Attend meetings as requested and process minutes and other paper work as appropriate;
6. Coordinate conferences and other activities conducted by the Association.

4. Treasurer

The Treasurer shall be responsible for collection and safe keeping of Association's money, including but not limited to:

- . Collection of the money of the Association such as charges that are determined from time to time by the Management Board and General Assembly;
- 2. Safe keeping money of the Association;
- 3. Assisting the General-Manager and Accountant in preparation of Annual Budget;
- 4. Assisting in accounting works;
- 5. Performing the bookkeeping related to the work of treasurer.

5. Accountant

The Accountant shall be responsible for management of the financial affairs of the Association, including but not limited to:

- 1. Preparing financial reports as required by the Board or General Assembly;
- 2. Prepare monthly accounts;
- 3. Prepare seasonal and annual statements of accounts suitable for auditing;
- 4. Prepare annual and seasonal budgets with General Manager;
- 5. Performing all other accounting works of the Association.

D. Wages of Employees

The salary of the General Manager and Deputy General-Manager shall be decided by the Management Board. Wages of other employees shall be approved by Management Board upon the proposal by the General Manager and paid by the Association.

2. OPERATION OF IRRIGATION SYSTEM

- 1. For purpose of operation of irrigation system, an operational plan showing frequency and duration of irrigation delivery shall be prepared by the Association with the help of the System Operator or Mirabs. The operational plan shall be based upon bulk allocations of River Basin Authority or any other regulatory authority.
- 2. Depending upon the tradition, water availability, canal capacity constraints, type and adequacy of structural control, the Association shall prepare an appropriate delivery schedule.
- 3. The operation of the irrigation system shall be performed by a Hydro-Technical Operator or Mirabs.
 - (1) The operator should have good background in the hydraulics flow through canals and other associated structures such as gates, drops and flow measurement structures. The operator shall be full-time employees of the Association. During the off-season, if any, the same personnel shall help with the maintenance of irrigation system.
 - (2) Mirabs as employee of the Association shall work under instruction of hydro-technical operator and be responsible for distribution of water in accordance with operational plan to their respective water users.
- 4. The Operator and Mirabs shall prepare a schedule of water demand and delivery from the Main Canal Turn-outs. The quantity of water flow in the

Main Canal shall be managed and forecasted according to these Water Demand and Delivery Schedules as modified from basin allocation.

5. The Irrigation System Operator and Mirabs shall maintain an actual record of delivery of water to the users.

3. MAINTENANCE OF IRRIGATION SYSTEM

1. The Association shall maintain the irrigation system and drainage system in an adequate operating condition. Members shall contribute collectively for maintaining the irrigation system of the respective Association in terms of finance and collective labor work (hashar).
2. The Association shall undertake different maintenance activities as follows:
 - (a) It may undertake routine or normal maintenance that is usually conducted annually or seasonally for a system. Routine maintenance involves those activities that are commonly done during the year such as minor repairs to earth embankments damaged by rainfall, animal or by machinery etc; desilting canals and drains; removal and cutting back of vegetation from within or from embankment of canals and drains which prevent flow of water; greasing and oiling of gates etc.
 - (b) It may be involved in preventive maintenance that is a program for taking care of maintenance needs and prevent any additional needs due to negligence in maintenance when they are only a minor problem. The preventive maintenance includes the repair to concrete canal structures; repairs and maintenance to wood and metal works in particular parts; repairs to measuring structures, and installation of gauges; and repairs to canal embankments if there is erosion, leakage or overtopping.
 - (c) It may do emergency work such as temporary repairs to the canal damaged by floods; repair of structures that have failed and other emergency work to protect, heighten or strengthen embankments to prevent risk of overtopping due to excessive flows in the canal.

4. REHABILITATION

The Association may undertake activities of rehabilitation such as desilting irrigation systems, drainage systems and repair of irrigation structures. The Association may plan its rehabilitation activities on the basis of needs and the availability of the fund.

5. FINANCIAL MANAGEMENT

A. Preparation and Management of Budget

1. The Association shall have a good financial management in order to account for its assets (income, cash, property, equipment etc) and to

account for the use and expenditure of those assets to conduct its operations and maintain its economic viability.

2. The financial activities of the Association involve the following:
 - a. collection of charges determined by the Association;
 - b. collection of fines and penalties;
 - c. receipt of grants and loans;
 - d. recording and accounting of all income;
 - e. preparation of an Annual Budget;
 - f. Inventory and accounting of all supplies, goods, and services received;
 - g. accounting for all payment of expenses;
 - h. keeping and accounting for funds and assets;
 - i. providing management with financial statements on a regular basis such as monthly, quarterly and annually;
 - j. preparing an inventory of the assets of the Association;
 - k. keeping a register of land possessed by members. The register should contain users's name (possessor), size of the plot(s), location of the plot (s) and name of sub-lateral from which the land is irrigated, and name of landowner. The register should be updated on regular basis; and
 - l. audit of all financial activities.
3. The Association shall prepare the Annual Budget at the beginning of each Hijri Shamsi calendar year. The General-Manager with the assistance of technician, operator, Mirabs and accountant shall prepare proposed Operation and Maintenance Plan and budget and submit them to the Generally Assembly for its review, revision if necessary, and approval.
4. During the Budget Year, the accountant should keep a close look at the actual income and expenditures and compare these with the budgeted amounts. The Accountant shall provide the manager with a budget to actual comparison monthly in order for him to take appropriate action if there appears to be a problem.

B. Management of Agro-Business Contracts, Bank Loans and Other Financial Transactions

The Association may enter into agro-business contracts, bank loan agreements and do financial transaction involving agricultural cooperatives. The Association shall ensure that these contracts and transactions are properly executed and utilized for development plans of the Association and improvement of agricultural productivity. These contracts, agreements and transactions shall be approved by the Management Board and in some cases they may require approval of the General Assembly but in no case compromise will be made to hamper the delivery of water to the members of the Association.

6. FEE ADJUSTMENT AND REGULATION

1. The Association is non-profit institution and in order to carry out the operation and maintenance of the irrigation system and to pay the employees shall collect charges. Charges shall be set at a level to cover salaries of the employees of Association and all operation and maintenance costs for service and other costs incurred by the Association.
2. Charges shall be collected on the basis of the irrigated area (ha) **or** the amount of water used.
3. Charges shall be proposed by the Management Board, and approved by the General Assembly.
6. The Management Board shall propose internal regulation for purpose of approval to the General Assembly as to the time and manner of collection of the charges.

7. INCOME: RECEIVING AND RECORDING

All cash payment should be paid to the Treasurer of the Association. When a payment is made, a receipt is made in triplicate (an original, and Income Receipt Book copy and a financial recording copy). The original receipt must be issued to the user (or his representative). One copy of the receipt remains in the Income Receipt Book as a permanent record of payment with the Treasurer and another copy will be given to the Accountant for the purpose of recording the Income.

8. BANK AND PETTY CASH ACCOUNT

The Treasurer shall keep the money received in a certified registered Bank and only small amount of petty cash for daily use can be kept in a safe in a secure location at Association's office.

9. EXPENSES: PAYING AND RECORDING

1. The payment of expenses and/or cash withdrawals by Treasurer shall be recorded by the Accountant. Before any payment or withdrawal is made, the Treasurer with a record by Accountant shall have the approval of the Manager. The Treasurer then can withdraw the cash for payment of the expense or the purchase of items for the Association use with the record by the Accountant.
2. Prior to the payment of any expense by the Treasurer, the Accountant shall prepare a cash expense receipt or cash withdrawal receipt. The receipt shall be prepared in triplicate (an original, an Expense/Withdrawal Receipt Book copy and a financial recording copy). The original expense receipt will be given to the payee, one remains in the Expense/Withdrawal Receipt Book as a permanent record of expense/withdrawal, and the financial recording copy of the receipt to be used to track and record the expense or withdrawal. When the Treasurer issues a withdrawal receipt and cash, an expense receipt for the purchase must be received. Any unused cash will be re-deposited in

the cash account. From the financial recording copy, the accountant will record all expenses/ withdrawals.

3. Bank checks or money withdrawal documents shall be prepared by Treasurer and Accountant and signed by the Accountant and co-signed by the General Manager or his deputy in case of Manager's absence.
4. Ordinary transaction of the Association shall be approved and signed either by the Treasurer or the General-Manager or any other person authorized by the regulation that will be developed by the Association.

10. MONTHLY AND ANNUAL ACCOUNTING AND REPORTING

1. Monthly, the Accountant shall enter the income and expense data to the Monthly Financial Statement and on any other forms used to summarize financial data. All summaries shall be presented to the General-Manager for his review and approval.
2. At the end of each month, the Accountant should close and balance all accounts and prepare a monthly financial statements and reports. These statements and reports will be used to inform General-Manager as to the current financial status of the Association. The statement and report show the beginning balance, income, expenses, ending balance, and inventory of cash with the treasurer.
3. In addition, the Accountant shall prepare annually a Balance Sheet and an Income and Expense Statement suitable for independent auditor.
4. The Association may be required to prepare other reports. These other reports may or may not be related to finance management but are nonetheless important. Some of these reports could be:
 - a. report concerning the quantity of water received
 - b. a report on the quantity of water delivered to water users
 - c. a crop report
 - d. operation and maintenance report
 - e. Rehabilitation Project Monitoring and Evaluation reports
5. The Assembly shall review the Balance Sheet and Income Expenses Statement before it reviews the proposed budget. In addition, the audit report (s) shall be reviewed by the Assembly to be assured that the Association staff and management is properly managing and accounting for the assets of the Association. If the auditor's report(s) identify a problem or problems, the Assembly must carefully decide what action should be taken.

11. INVENTORY

An annual inventory of the assets of an association shall be made by the Accountant of the Association in order that they to be protected and accounted for properly. The inventory list should have: a description of the assets, serial

number, date of purchase, cost, location of assets, and any pertinent information. As new items are purchased, they should be added to the inventory list. When items are lost, destroyed, sold, or replaced the inventory list to be updated.

In order to complete the Balance Sheet, the Accountant must have a complete and current inventory of the Association's assets.

12. AUDITING FINANCIAL SYSTEM

1. An annual audit of the financial activities of the Association shall be made in order to maintain proper financial management. The auditor shall inspect and review all financial books, documents, prepare and present a report of its conclusions and recommendations to the General Assembly. The General Assembly shall review the report, and if necessary, take appropriate action to correct any problems or irregularities that are noticed.
2. The auditor shall also review the inventory of the Association's assets to determine if all the assets can be accounted for. The Treasurer and Accountant shall provide assistance to the auditors during the audit and make all records and accounts available for examination.
3. The Association may audit its financial activities either by an Internal Audit Committee or by an External Independent Auditor.
 1. The Internal Audit Committee shall be composed of three members that are elected for a fixed term. The Committee Members shall inspect and review all financial books and documents and prepare and present reports of its conclusions and recommendations to the General Assembly.
 2. If the Association relies on the external independent audit, the use of Internal Audit Committee may be redundant. So the independent external auditor will inspect and review all financial books and documents and present a report of its conclusions and recommendations to the General Assembly.

In addition to a written report with conclusions and recommendations, the external auditors may be expected to attend the Assembly meeting if the situations warrant their attendance. If the auditor finds evidence of financial malpractice or that the Association has not been operating in accordance with national law, the General-Manager shall call a meeting of the Assembly where the auditor's findings will be presented to the members for getting their approval.

13. PUBLIC REVIEW OF RECORDS

Any member of the Association has the right and privilege to inspect any Financial and Accounting Reports at any time during the year, upon approval by the General Manager or his Deputy.

14. METHOD OF DISPUTE RESOLUTION

1. Dispute with respect to duration, turn and quantity of water or any other on-farm disputes shall be resolved first by the respective Mirab and hydro-technical operator through participation of the parties concerned. If the dispute between parties cannot be resolved at this stage, it may be referred to the General-Manager or his Deputy.
2. The problem with respect to non-payment of charges owed to the association shall be resolved first by the Treasurer. In the event that a member fails to pay their due after notification by the Treasurer, the matter will be referred to the General-Manager or his Deputy for taking further action.
3. Any other types of problems such as non-cooperation of the members to take part in collective work for cleaning or repair of the irrigation system etc shall be dealt with directly by the General-Manager or his Deputy.
4. If a dispute cannot be resolved by the General-Manager or his Deputy, it may be referred to the Management Board. The Management Board may deal with the dispute as follows:
 - a. The Management Board may resolve the problem or the dispute by passing a decision to that effect.
 - b. If dispute is between the Association and an entity or with another association, the Management Board may refer the matter for arbitration if it is considered appropriate.
 - c. If the members of Management Board think that the matter requires discussion and decision of the General Assembly, an extra-ordinary meeting of the General Assembly will be called. The General Assembly makes a decision on it but in matter of extreme importance the Assembly may call a "farmer gathering" before making a decision.
5. If the dispute cannot be resolved through arbitration or by the General Assembly, it will be solved as follows:
 - a. The dispute can be referred to the Sub-Basin Council.
 - b. If the dispute cannot be resolved by the Sub-Basin Council, it can be referred to the River Basin Council.
 - c. If the dispute cannot be resolved by the above authorities, after consultation with the Ministry it can be referred to the concerned legal authorities for resolution.

APPENDIX III

**TRAINING MANUAL FOR WATER USERS'
ASSOCIATION TRAINERS IN THE RAMP PILOT
PROJECT AREAS
(Draft)**

**USAID AFGHANISTAN
REBUILDING AGRICULTURAL MARKETS PROGRAM
INSTITUTION BUILDING AND ADVISORY SERVICE TEAM
OF
DEVELOPMENT ALTERNATIVES, INC.**

May 2006

TABLE OF CONTENTS

PREFACE AND ACKNOWLEDGEMENTS	61
I.Introduction	62
II.WUA Formation	63
A.Service Area	63
B.Mobilization.....	63
1. Consultation Meetings.....	63
2. Information and Awareness Campaign	64
3. Collection of Baseline Data.....	65
C.Preparation of By-Laws	65
D.Sub-Lateral Formation Meeting	65
1. Register of Potential Members and Map	66
2. Invitation	66
3. Convening the Meeting	66
E.WUA Formation Meeting	66
1. Draft Charter and Internal Regulations	66
2. Draft Budget and Operations and Maintenance Plans	67
3. Invitation Notice.....	67
4. Convening the Meeting	67
F.Registration	68
G.Memorandum of Understanding.....	68
III.Training WUAs	69
A.Qualities of Good Trainers	69
B.Target Group.....	70
C.Needs Assessment	70
D.Adult Learning	71
E.Training Methods.....	72
1. Lectures	72
2. Discussion Methods	74
3. Situational and Field Exercises	75
4. Field Trips	76
5. Other Methods.....	76
F.Training Aids	77
G.Schedules.....	78
H.Logistics	79
I.Training Delivery	80
J.Evaluation	81

PREFACE AND ACKNOWLEDGEMENTS

This Training manual is aimed at providing a reference tool for trainers and mobilizers of pilot Water Users' Associations in the project areas of the USAID Afghanistan Rebuilding Agricultural Markets Program (RAMP). Mike Thurman created the manual for the Development Alternatives, Inc. Institution Building and Advisory Service Team. This manual relies upon a variety of sources, including the fieldwork of the project team and written sources. The latter include the following:

Asian Development Bank. 2005. *Manual for Water Users' Associations in Uzbekistan, Vol. 2: Formation and Development*.

FAO. 2001. *Guidelines for Participatory Training and Extension in Farmers' Water Management*.

World Bank. 1996. *The World Bank Participation Sourcebook*.

World Bank. 2001. *Kyrgyz Republic On-Farm Irrigation Project. Handout for Trainers*.

Introduction

This training manual is aimed at providing a reference tool for trainers and mobilizers of pilot Water Users' Associations in the project areas of the USAID Afghanistan Rebuilding Agricultural Markets Program (RAMP). The manual is divided into chapters covering the formation of WUAs and the training of WUAs. Many of the procedures specified in the manual for the formation of WUAs are designed specifically to meet the needs of the RAMP pilot project areas. However, in large part they can be applied elsewhere in Afghanistan, with limited modification. The training methods presented below are universally applicable to the country.

WUA Formation

Successful WUA formation requires significant participation of water users. Significant time and effort are often needed in order to facilitate water user participation. In the RAMP pilot project areas, WUA formation will entail several steps. These are listed below:

1. Establishment of service area
2. Mobilization: rapport, baseline data collection, problem analysis and service identification
3. Preparation of documents for formation
4. Sub-Lateral Formation Meeting
5. WUA Formation Meeting
6. Registration
7. Memorandum of Understanding

Service Area

The service area of the WUA must be established before other baseline data within this area can be collected and water users can be consulted. WUAs and sub-divisions within them should conform to hydrological units, i.e. the area served by a single water source. If plots of land belonging to different hydrological units are incorporated into the same service area, water users in the separate units may not recognize each other's needs and problems. In order to establish the hydrological boundary, it is necessary to acquire or create a map indicating the configuration of the irrigation and drainage system and its relationship with farm boundaries. The size of the territory and number of potential members must be considered, in addition to the hydrological unit and the farm structures of the territory that are to be considered as the service area of the WUA. In general, a balance must be struck between the area in which economies of scale can be realized and the number of members of the WUA that can be adequately represented and manage the WUA without excessive paperwork and transaction costs.

Mobilization

Mobilization entails building rapport with local water users, generating support for the WUA, making water users aware of what is required to create a successful WUA, and identifying the local needs in operations and maintenance and agricultural production systems. The DAI Institution Building and Advisory Team, together with local counterparts, needs to conduct significant mobilization activities at the beginning phase of WUA formation. These activities are outlined in the ensuing sections.

Consultation Meetings

After the hydrological unit to be served has been determined, the field mobilizers of the Institution Building and Advisory Team should build rapport with farmers and other water users and understand the situation and needs at the grassroots level. This process should begin with introductory meetings with potential members of the WUA and continue with in-depth consultations. The following issues should be discussed:

- The objectives, functions, and activities of WUAs
- WUA organizational structure
- WUA by-laws (Model Charter and Model Internal Regulations)
- The process of its formation, in particular the Sub-Lateral Formation meeting

- The responsibilities of WUA members, especially the payment of the Irrigation Service Fee

(The Training Manual for WUAs covers in detail the governance and management issues listed above.)

Potential members of the WUA include farmers who possess the right to use irrigated land with a tenure of at least five years, as well as legal entities that possess the right to use more than 10% of the Association's water for non-irrigation purposes. (See the Training Manual for WUAs concerning membership in the WUA.)

During the initial consultations field mobilizers should encourage water users to identify problem areas, possible remedies, and the types of services that they expect from a WUA. Farmers should be asked to meet and to identify problems in irrigation agriculture and the management of irrigation and drainage in particular. Other water users (such as municipalities) located within the boundaries of the proposed WUA will also need to meet and discuss their specific water supply problems. It will be useful to split the meetings of farmers (and other water users) into groups of six to ten neighbors and ask each group to identify the problems and then present their problem analysis and identify "who should do what." A discussion should follow this exercise, in which the water users exchange ideas concerning their ideal of a participatory irrigation and drainage service. Questions that might be asked include:

- What are the essential tasks?
- Who should perform these tasks and to whom should they be accountable?
- Who should pay for what?
- How should the activities of the WUA be evaluated?

The meetings should end with the definition of objectives for the WUA's services.

It is imperative that all potential members participate in these discussions: the more people that are involved in discussing the organization and rules of the WUA, the more they will feel a sense of proprietorship concerning the WUA and respect its rules and procedures. Moreover, it is desirable to achieve consensus concerning establishing the WUA before the Sub-Lateral Formation Meeting is officially convened. Field mobilizers should pay extra attention to eliciting responses and active discussion of water users that are typically disadvantaged in operations and maintenance, such as downstream water users and the female heads of farms.

Information and Awareness Campaign

Familiarization meetings should take place in parallel with an information and awareness campaign. The campaign would disseminate information concerning WUAs and their potential benefits to the area in question. Depending upon the resources available and the amount of outside support provided, such information would appear in the form of brochures, newspaper articles, and interviews and short presentations on television and the radio. This information must be simple and easily assimilated, as farmers in Afghanistan are not avid readers. If the local shuras, elders, imams, or other locally respected persons agree, they may also help in informing the local population concerning the WUA and explaining its utility in conserving God-given resources.

Collection of Baseline Data

The team of field mobilizers should also collect baseline data, with the participation of farmers and other water users, as well as local state irrigation personnel and other authorities. This data must be collected in order to provide an indication of the environment within which the WUA will be formed. Participation of all water users in data collection through focus groups and walk-through surveys of the irrigation and drainage system will involve them in the process of WUA formation from the outset and build trust. When the WUA is formed and developed as part of a donor agency project, the staff of the project should also help to obtain baseline data.

Field mobilizers should collect the following information pertaining to irrigated agriculture:

- A list of water users, disaggregated by male and female farmers, and the amount of land that they hold or lease. This information should be collected for each of the tertiary canals and aggregated at the secondary canal level;
- Types of water use, i.e. irrigation, municipal, industrial, charity, religious, education facilities, and the like. This information also should be collected for all tertiary canals and aggregated at the secondary canal level;
- Cropping patterns, intensities, and yields per hectare. This information should also be collected for all tertiary canals;
- Availability of non-water inputs;
- Farmgate prices and access to markets; and
- Ameliorative conditions (waterlogging and salinization) for all tertiary canals.

The results of baseline data collection should be shared with the potential members of the WUA. Making this data available to potential members will contribute to their own understanding of the context in which they use water, enable a final review of the baseline data, and build trust between the field mobilizers and the potential members of the WUA. After the WUA is formed, this information will also be useful for monitoring and evaluating the performance of the WUA (and the RAMP project).

Preparation of By-Laws

During the mobilization stage, the Institution Building and Advisory Team should begin to prepare a Draft Charter and Draft Internal Regulations, based upon the models available and consultations with water users concerning the model by-laws.

Water users should be familiar with the Draft Charter and Draft Internal Regulations in advance of the Sub-Lateral Formation Meeting. In this manner, WUA members can express their input into the by-laws to their General Assembly representative before the by-laws are ratified in the WUA Formation Meeting. This is necessary not only for the participatory, democratic formation of the WUA, but also for the future operations of the Association.

Sub-Lateral Formation Meeting

The next phase of WUA formation is a Sub-Lateral Formation Meeting. During this meeting water users vote to establish the WUA and become members of the Association, and WUA members elect a representative to the General Assembly from their sub-lateral area.

Register of Potential Members and Map

Before the Sub-Lateral Formation Meeting can be convened, the team of field mobilizers should prepare a register of all water users within the WUA, as well as a map of the proposed service area and agricultural lands. The data required for the register and map may already be available, based upon the previous meetings with water users and the collection of baseline data.

Invitation

Ideally, all water users from a given sub-lateral will participate in the formation meeting for their area. Organizers of the meetings should notify water users at least two weeks in advance. Notifications and invitations can be transmitted through hand-written messages, posters in public gathering places and announced in mosques.

Convening the Meeting

The team of field mobilizers facilitates the convening of the Sub-Lateral Formation Meeting. However, it is critical for the future endeavors of the WUA that the field mobilizers and all outside authorities from interfering into the Formation Meeting and play a purely supportive role in arranging it. Only eligible potential members may participate in the Sub-Lateral Meeting.

Each eligible potential member has one vote in the Sub-Lateral Meeting. The first vote in the meeting is to establish the Water Users' Association. This vote is decided by a majority of all eligible potential members. All who vote for the WUA become its members.

Following nominations, the second vote is for the representative of the sub-lateral to the General Assembly. This vote is decided by a majority of all WUA members. Non-members may not participate in this vote. In the event of approval by an absolute majority of eligible potential members in the Sub-Lateral Meeting, the election of representative to the General Assembly can take place according to local tradition and practices

During the Sub-Lateral Meeting eligible potential members may also vote to establish and approve a set of Sub-Lateral Internal Regulations.

WUA Formation Meeting

The sub-lateral representatives to the General Assembly are the founding members of the Association. In order for the WUA to become formally established, the founding members must meet and approve the Draft Charter and Draft Internal Regulations in the WUA Formation Meeting. The founding members serve as the Management Board of the WUA until one is elected in the meeting.

Draft Charter and Internal Regulations

Prior to the Formation Meeting the Draft Charter and Draft Internal Regulations should be distributed to the founding members. In this manner, they will be familiar with these documents and will be ready with questions or suggestions concerning them before voting in the Formation Meeting. If it is not possible to provide founding WUA members with individual copies of these documents, the field mobilizers can make them available for public inspection in locations such as the mosques.

Before the Formation Meeting occurs, it may be advisable to consult with the district or province department of the Ministry of Justice concerning the Draft Charter and Draft Internal Regulations in order to ensure that it conforms to the law.

Draft Budget and Operations and Maintenance Plans

The Institution Building and Advisory Team should prepare a Draft Budget and Draft Operations and Maintenance Plans for the first year of the WUA's activities. The Draft Operations and Maintenance Plans outline the activities of the WUA in its first year and provide the basis for the budget. The Draft Budget indicates the expected expenses and income of the WUA. The Institution Building and Advisory Team should consult with the local irrigation specialists concerning the operations and maintenance needs and costs of the irrigation and drainage system. In addition, the previously conducted Problem and Service Needs Analysis should inform the Draft Operations and Maintenance Plans. Other components of the RAMP project may also be able to supply data. The Draft Budget is required for financial management of the WUA. It is also required in order to explain to the members the amount of and need for the Irrigation Service Fee. The Training Manual for Water Users' Associations describes the calculation of the Budget and the creation of the Draft Operations and Maintenance Plans in detail.

Invitation Notice

The Formation Committee should give notice to all prospective members of the WUA well in advance of the Formation Meeting and arrange a suitable time and meeting place. The Invitation Notice will describe the agenda of the meeting, which will be the ratification of the Draft Charter and Draft Internal regulations, the election of the Management Board and Internal Audit Committee, and the approval of the Draft Budget and Work Plan. The invitation notice should also encourage the potential members to propose candidates for the Management Board and Internal Audit Committee.

Convening the Meeting

All founding members must be present at the WUA Formation meeting. Each founding member has one vote. A Secretary should keep an accurate record of who attends the WUA Formation Meeting, as well as its decisions.

The first item of business is to approve or reject the Draft Charter and Draft Internal Regulations. A majority of all founding members is required to approve these by-laws. It is hoped that by this time adequate consensus has been reached in order to enable a vote in favor of the prospective WUA and its by-laws. Voting can proceed by either show of hands or secret ballot. A list of General Assembly members and their signatures must accompany the approved Charter. If the founding members reject the Draft Charter, it must be modified and another WUA Formation meeting convened.

Following the signing of the Formation Agreement, the Formation Meeting elects the Management Board and Internal Audit Committee (if the latter is specified in the Charter). Management Board members represent laterals of the irrigation system. They are elected by the General Assembly members within their lateral unit.

Management Board members must be WUA members, but do not need to be General Assembly members. The members of the General Assembly must nominate the candidates. Each General Assembly member has one vote. A majority of all General Assembly members decides the outcome of these elections.

The final item on the agenda of the WUA Formation Meeting is the approval of the Draft Budget and Work Plan. These must be fully explained to the members of the General Assembly. Approval should occur through consensus, although approval by absolute majority vote is also possible.

Registration

After the WUA Formation Meeting has been successfully concluded, the WUA must register with the Ministry of Justice in order to be considered as a juridical entity. Until this occurs, the WUA is not considered to be a legal non-governmental, non-profit organization.

Memorandum of Understanding

Although the WUA has been established at this point, it should not begin to function until a Memorandum of Understanding has been reached with the Irrigation System Administration concerning the transfer of property rights and operations and maintenance responsibilities. A Memorandum of Understanding specifies the following:

- The area and irrigation and drainage system to be transferred (property rights);
- Any operations and maintenance equipment to be transferred along with the infrastructure;
- The terms of the transfer of the irrigation system;
- The rights and obligations of MAWR;
- The rights and obligations of the WUA; and
- The terms of termination of the Memorandum of Understanding.

According to the Water Law, irrigation and drainage systems built and maintained by communities is community property. These assets must be properly inventoried and checked by the Management Board prior to the transfer. The inventory of these assets must be accurate, in order to ensure that the transfer is accurate and proper and that future inventories proceed from a sound basis. The Management Board should negotiate the Memorandum of Understanding with MEWR. The negotiated agreement is ratified or rejected in the first meeting of the General Assembly following formation.

Training WUAs

Training in governance and management activities is critical for the development of Water Users' Associations in Afghanistan. In order for training to succeed for WUAs in the RAMP pilot project areas, skilled and knowledgeable trainers will be required. The ensuing sections of this manual describe what types of trainers are required, methods of needs assessment for training, and how training might be delivered.

Qualities of Good Trainers

Good trainers must possess several types of skills. First, they must be well grounded in the technical knowledge that is to be taught. It is also critical that the trainer also know "how" to teach. The list below summarizes some of the most important qualities needed to be a successful trainer:

- **Be Competent.** Be competent in the subject being taught as well as in knowing "how" to teach. Do not try to teach without either of these competencies.
- **Be Friendly and Tactful.** Know how to get along with people. Make participants and others feel that you have a sincere interest in them.
- **Be Alert and Resourceful.** Be alert to the smallest signs of lack of interest, misunderstanding, or confusion that might be present among the participants. Be able to adapt to the learning situation and change methods when difficulties are discovered.
- **Be Considerate.** Consider the feelings of others and, as a rule of thumb, think first and talk second.
- **Be Enthusiastic.** Believe in your work and "sell" your program. Create interest in your program by being enthusiastic.
- **Be Prompt.** Be on hand early and have everything ready when training classes begin. Always begin on time and stop on time.
- **Be Patient.** Do not show irritation when things are not going well. When trainees do not grasp your ideas readily, remember the fault may be yours.
- **Be Prepared.** Plan for each lesson and activity. Make trainees aware of your plans and have the necessary tools, equipment, and materials ready for each class.
- **Be Appreciative.** Show an active interest in the progress of each trainee. Offer favorable comments to trainees when they are deserving of it.

The acquisition of training skills is an ongoing process. Skills that need to be developed include the following:

- Determining training needs
- Use of adult learning principles
- Defining training objectives
- Designing training content
- Developing lesson plans
- Developing training aids and other support materials for training
- Providing a proper environment for training
- Effective communication of training materials
- Methods of evaluating training

Target Group

Preparation for training should begin with the identification of the Target Group. The identification of the Target Group is required in order to conduct a Needs Assessment and determine the information that is to be presented, as well as to select the methodologies for the training. Identifying the Target Group is the starting point in terms of what has to be taught and how it is to be taught. Trainers should consider the specific objectives and problems of each Target Group, as well as their specific interests, and work out the best manner to approach each Target Group.

Needs Assessment

Needs assessment is required to identify gaps in knowledge and skills and adapt training subject, methods, time, and duration to the needs of specific Target Groups. In most instances, data and experience on hand are insufficient to conduct an adequate needs assessment. Therefore, several methods are employed.

A comprehensive method of needs assessment is to conduct a survey. However, conducting an accurate survey is expensive and time-consuming. Key Informant Interviews are more feasible, yet offer an incomplete picture. Participatory Rural Appraisal methods are less expensive and time consuming than surveys and provide greater coverage than interviews. However, their main advantage is that greater input is obtained from farmers, who participate more actively than in other needs assessment methods.

Participatory Rural Appraisal is a set of methodologies that emphasize local knowledge and enable local people to make their own appraisal, analysis, and plans. PRA uses group exercises to facilitate information sharing, analysis, and action among stakeholders. To ensure that the data obtained is reliable, at least three sources are consulted or three PRA techniques used to investigate the same topics. Techniques commonly utilized in PRA include semistructured interviewing, focus group discussions, preference ranking, mapping and modeling, and seasonal and historical diagramming. Among PRA techniques, the most common is focus groups.

Focus groups require significant preparation. Trainers should establish clear objectives for the focus groups before writing the questions to be used. It may be advisable to test the questions (e.g. among colleagues). While selecting participants, representative sample is desirable. If possible, some of the participants should know each other. An ideal number of participants is between six and ten. Participants should be invited personally, and the purpose of the focus group needs to be explained clearly to them beforehand. Make sure all know details such as the time and date, location and length of time involved. Focus group facilitators should plan to take enough time to be able to discuss the different subjects and allow for a better understanding of the participants.

The setting for the focus groups should be comfortable, quiet, and free from distractions. There should be facilities for refreshments and access to toilets.

Ideally, a focus group has two facilitators. The first facilitator introduces the topic to be discussed and initiates and prompts the discussion. This should be done without leading the discussion or excluding the views of the group. A second facilitator

records the views of the group (note taking, using flip charts, video and/or voice recording). It is important that the second facilitator be as unobtrusive as possible.

The first facilitator opens the focus groups with a brief statement of the purpose of the group. In order to collect background information on participants and “break the ice,” it is advisable for each participant to take two or three minutes to introduce themselves and provide a brief professional autobiography. The first facilitator initiates with broad questions and then focuses in on particular issues in more depth. He or she listens to the responses and guides the group, but should not take a dominant position. The second facilitator sits outside the group and records the thoughts and opinions being expressed and would not contribute to the discussion. (His/her role should be explained to the group.) Do not disrupt the session by having any break. Refreshments should be offered at the beginning and end of the session. The first facilitator closes by thanking the group for their contributions and by restating intended use of the information gathered.

Facilitators should be careful while leading the discussion. It may be necessary to direct the first few questions at particular individuals in order to get a response and to get the group discussing issues more freely. There is no need to achieve consensus in the group: divergent views are valuable and often revealing. Similarly, they should not attempt to summarize the discussion.

Focus group information should be recorded in verbatim or paraphrased reports that are structured according to questions and prompts. In interpreting the data, the main discussion strands, thoughts, and ideas should be drawn from the verbatim report and then categorized and analyzed. Facilitators should review all the material collected and take part in the analysis.

Adult Learning

WUA staff and members are adult learners with specific training needs. The manner in which adults learn and their needs must be considered before selecting training methods.

Learning is the acquisition of new knowledge, attitudes, and/or skills that can be demonstrated by some new performance capability. Some examples include understanding the procedures for establishing a WUA, understanding the development of WUA financial worksheets, or understanding how to install, read, and calculate flow measurements of a flume.

WUA training is focused upon adult members and line staff. Adults have specific ways of learning that must be taken into consideration when selecting training methods. The trainer needs to realize that the participants are not students in the traditional sense, but adults who bring with them much knowledge and experience.

Research findings on adult learning and retention of materials indicate the importance of using practical training methods. Adult learners actually retain the following percentages of what is taught:

- 10% of what is read;
- 20% of what is heard;
- 30% of what is seen;

- 50% of what is seen and heard; and
- 90% of what is done.

In addition, research concerning adult learning has shown that only about 20% of what an adult learns comes from formal teaching methods. Participants learn faster by seeing and hearing than by hearing alone. Participants learn much faster when doing is added to seeing and hearing. It is doing that makes learning permanent.

The needs of adult professionals in the learning process differ from those of other students in significant ways. All students have physical needs (adequate and safe facilities, balance of rest and activities, etc.), psychological needs (sense of personal worth and status, opportunity for self-expression) and social needs (need to be accepted by and contribute to the group, recognition for good work). However, adult learners have specific intellectual needs. These include meeting professional needs and interests, understanding the relationship between training and one's job, obtaining a clear understanding of the goals of the program, and learning from other participants.

In order to accommodate the needs of adult learners, it is important to adopt an action training strategy, as opposed to an academic training strategy. The main difference between these two approaches is that action training emphasizes specific, practical skills and problems. Academic training usually transmits theory and general content, with the expectation that learners will later translate the knowledge into action. Action training results in the improvement of practical skills that lead to better job performance, while academic training assumes that the trainees will apply general content that is presented without further guidance.

Training Methods

During training participants usually can usually devote their attention to any given activity for around 20 minutes, after which attention is diverted elsewhere. Therefore, several training methods are needed for each training session. The ensuing sections describe some of these methods. Examples will show how training can be made more relevant, practical, interesting, and participatory.

Lectures

Lectures are the most common method of presenting a topic. Lectures can be effective, but they are commonly overused or wrongly used. Most of the problems associated with lectures can be minimized if trainers bear in mind the strengths and weaknesses of the lecture method. The major strengths of the lecture method are that it is time-saving and economical. It is good for presenting new topics, for short talks and explanations, and when used to supplement other methods of teaching. The main weakness of the lecture method is that it is essentially a one-way method of communication. If the lecture is wrongly used, training doesn't approximate the participant's job, retention of learners is low, and participants are often passive.

Trainers can address these weaknesses by introducing several improvements into presentations that will minimize the inherent weaknesses in the lecture method. These include the following:

- Develop a good outline of the topic;
- Talk to the participants rather than reading to them;
- Use easily understood words and a conversational tone;
- Maintain eye contact with the participants;
- Be enthusiastic about the presentation;
- Use interesting training aids to emphasize major points of the presentation;
- As much as possible, relate the topic to local conditions/experiences;
- Provide a good summary;
- Build in questions for feedback; and
- Build participation into the lecture.

Among these methods of improving presentations, participation and feedback are the most effective. Most weaknesses of the lecture method can be minimized by facilitating participation through questions, discussions, or other forms of participant involvement.

Moreover, adult participants want to participate in the training/learning process. Below are some suggestions for building participation into a lecture.

First, make lectures visual. Participants often need to see something to remember. When the subject is WUA development, good visual images of the systems, processes, functions, tasks, problems etc. will help. Visual aids might include maps, overhead transparencies, posters, films, models, practical items such as a stream gauge or flume, etc. For example, a diagram or diagrams can be used to show four systems of an irrigation project in a lecture on the use of a systems approaches to improve water management.

Second, encourage questions and discussion to involve and bring out the views of the participants. Below are some tips concerning questions and discussion during lectures:

- At the beginning of the lecture, let the participants know that you want their questions and encourage questions throughout the presentation. Verbally reward very good questions and never chastise individuals for poor questions.
- Never try to answer a question that you do not know, as you will lose your credibility as a trainer. Instead, admit that you do not know the answer to the question, ask if any of the participants know the answer to the question, and/or solicit your co-trainers help. If no one knows the answer, tell the participants that you'll try to obtain the answer for them before the end of the training program.
- Stop the lecture to ask key questions such as: What do you think the reason might be? What do you think the outcome might be? Why?
- Start a session with, "This is the key question for this presentation. What do you know about it?"
- Divide the participants into small groups for five to ten minutes to discuss how they would solve a particular problem covered by the lecture. Have the groups report their solutions to the class.
- Design your lecture to solve a problem. Start your lecture with a problem and ask participants their views and experiences related to the problem. For example, "What steps do you think are needed to improve on-farm water deliveries?"

Third, distribute written information. Lecture outlines and handouts help learners follow the main ideas. Fact sheets provide data and reduce busy note taking. Another method is to ask participants to take five minutes to respond to a written question.

Fourth, brainstorm to generate ideas. Use the participants to generate information on a problem or subject. For example, teams may be asked to write down their ideas on how WUAs can introduce and improve financial management systems.

Fifth, utilize team lectures. Use one or more team members to give a presentation. For example, the irrigation engineer and financial specialist may want to team up in a presentation on designing and costing alternative methods of channel lining.

Discussion Methods

Discussion methods can be used alone or in combination with other training methods. The most common types of discussion method is a structured discussion. A structured discussion is guided by a trainer, who leads participants through a step-by-step process to achieve a training objective. Strengths of structured discussions include participation, clarification of issues, heightened interest at the beginning or end of a lecture, and feedback to trainers concerning what has been learned by the participants. However, the structured discussion method does not work well when participants possess little or no knowledge about the subject, and it often requires more time than lecture methods. For most training programs, the benefits of using structured discussions outweigh the disadvantages.

In using the structured discussion method, the trainer must determine the objectives and the structure of the discussion and develop the key questions needed to guide the session. His primary role during the structured discussion is to steer the discussion so that the training objectives are met. This requires that the trainer properly introduce the subject, serve as a disciplined moderator of the session to insure it moves along, encourage the participation of all trainees, acknowledge contributions, keep notes on the session, and provide a summary of the discussion. Box 1 below provides an example of a structured discussion concerning water control.

Box 1: Overhead Transparency for Water Control Discussion

Water Control

Water control refers to the capacity of an irrigation system to deliver water to the various off-takes from the source to the farmer's field at rates that insure that the irrigation requirements of the irrigation system are met over time and space. Water control also implies that flow rates are regulated to control erosion and sedimentation and that spillage, leakage and seepage loss rates are within acceptable standards.

The water control capacity of an irrigation system is largely determined by the installed structures and the capability of the personnel to use those structures properly.

Lateral System

- What are the main ways to improve water control on the lateral system?
- Who are the key actors in maintaining water control? What problems do they face?
- What are the specific management tasks in water control?
- What are the important structures for water control?
- Why is water control in the lateral system often deficient?

Sub-Lateral System

- What are the main ways to improve water control on the sub-lateral system?
- Who are the key actors in maintaining water control? What problems do they face?
- What are the specific management tasks in water control?
- What are the important structures for water control?
- Why is water control in the sub-lateral system often deficient?

Farm/Field Level

- What are the main ways to improve water control at the farm/field level?
- Who are the key actors in maintaining water control? What problems do they face?
- What are the specific management tasks in water control?
- What are the important structures for water control?
- Why is water control at the farm/field level often deficient?

In addition to structured discussion, there are several other types of discussion methods. Several of these are listed below along with a short description of their uses.

- Brainstorming: used by a group to generate ideas or solutions to a problem. A common rule is that no one criticizes the ideas of another person.
- Buzz Groups: small groups of three to four persons are given a problem and so much time to come up with a solution. A leader typically reports back to the larger group. For example, groups might determine the priority constraints limiting the effectiveness of a particular WUA.
- Panel Discussion: often used for seminars and symposiums where a panel of speakers present short talks on a given topic and participants raise questions. For example, a panel of engineers discuss their views about improving water delivery methods.
- Unstructured Discussion: participants have greater control over the discussion.

Situational and Field Exercises

A situational exercise is a device for creating critical thinking and for stimulating discussion. The situation reflects a real field problem and is followed by specific questions. Brief exercises such as these can be built into a lesson plan enhance a topic. They are useful in getting participants to think about their roles as professionals under sometimes difficult circumstances.

Field exercises provide participants with a particular skill/skills or an understanding of how something works or is done. Some uses of field exercises are as follows:

- To train the participants how to perform a specific operation or task and how to develop skill in the performance of that operation or task;
- To teach the participant to perform to a particular standard;
- To supplement lectures, discussions, or other methods;
- To clarify a principle or process; and
- To show how tools, equipment, or instruments work.

While they are extremely effective, field exercises require significant planning, logistical arrangements, and attention to detail. Because of this it is important to develop a good lesson plan. Have all materials ready at the site before the exercise and check the equipment for problems in advance of the exercise. Before commencing the demonstration and/or exercise, make sure the participants understand

the purpose of objective of the exercise. All participants should be able to see the demonstration and have an opportunity to ask questions. Trainers should involve the participants in the demonstration until you are sure they understand it. If there is sufficient equipment, have the participants go through the procedures alone. Trainers can reinforce what is learned in exercises with videotapes, movies slides, diagrams, graphs, and practical follow-up training sessions.

Field Trips

Field trips can be an extremely effective training tool, particularly when participants have little knowledge about the subject. Field trips can be used to introduce participants to new systems of management, such as a successful WUA, or a new technology, such as a new flume or gate. They can also be used to gather specific information concerning problems discussed in a classroom. The field trip itself can be targeted for short or long periods.

Field trips are valuable for providing experience not available in the classroom, for becoming acquainted with real world applications of management or technology, and for collecting specific information. Trainers must also understand that field trips as training tools have limitations in their use. Pitfalls of training with field trips include the following:

- Poor planning with people at the site(s) to be visited;
- Attempting to visit too many sites;
- Not providing adequate food, water, lodging etc.
- Used when not related to a specific training objective;
- Ratio of travel time to learning time becomes too low; and
- Can evolve into a pleasure trip.

In order to avoid these pitfalls, develop key objectives for the field trip. Before the field trip explain the objectives, background and data of the area, people to be met, information to be collected, and the expectations that the trainers have of the participants. Guides or speakers familiar with the site to be visited should be appointed and briefed long before the field trip and should be present at the field site at the times planned. Distribute available material in advance of arrival or at the field site, and hold a debriefing at the end of the field trip. Trainers should make sure participants that all logistics are in place in advance of the trip.

Other Methods

Other training methods are role-playing, simulations, case studies, and applied readings. These are less applicable within Afghanistan than the methods described above, owing to the amount of reading and writing associated with them. However, trainers should be aware of their purpose.

In role-playing and simulations, participants are given a specific role to play in a real-world situation pertaining to the subject of the training. Role-playing helps participants to gain perspectives towards a specific problem and allows them to experiment with its solution. However, participants may view it as a game, rather than a learning experience.

Case studies and applied readings highlight a specific situation or issue, respectively, which is directly relevant to the training subject. Readings can provide background for discussion, as well as additional data and reference materials for utilization after the training. However, they must be short and not overly complex. Handouts dealing with key technical or problem issues are recommended.

Training Aids

Training aids are devices that help the participants to learn and trainers to train.

Types of training aids include explanatory and discussion aids (such as whiteboards/blackboards, flip charts, and overhead transparencies), visual aids (like maps, posters, films, and PowerPoint presentations), and props (models, practical items such as a flume, instrument, etc.). The purpose of an aid is to support the trainer in making information more easily understood. Some key questions to ask in selecting the aid are listed below:

- Will this particular aid help to meet the specific objective of this training class?
- Is this the best aid or can another be found or designed to clarify the main points of the presentation?
- Will this aid help the participant learn the material?
- Will it stimulate participants to think, ask questions, and initiate interaction and initiate interaction and discussions?
- Is the training aid simple and easy to understand?
- Is the training aid economical to make or buy?
- Is the training aid portable?
- Can the aid be clearly seen by everyone in the training group? Is the group too large for this method? Is the shape and size of the room adequate?

Owing to the lack of electricity and facilities in most areas where WUA training will be conducted in Afghanistan, training aids will need to be “low-tech.” Under these circumstances, flipcharts and blackboards/whiteboards flipcharts are the most cost effective and practical training aid available to a trainer. Flip charts can be used under a wide variety of training situations and are extremely useful for group participatory exercises. In the classroom, the two main requirements for using flip charts are adequate lighting and a place to set the flip chart where it is visible to all of the participants. The major differences between a flipchart and blackboard are the following:

- A flipchart is easily mobile.
- Material can be prepared on a flipchart long in advance of a class and saved after the session for future use.
- Color presentations and highlighting with colored felt pens are easy with flipcharts.
- Sheets can be removed and posted in the classroom.

When preparing and presenting material from flipcharts remember the following:

- Print in large letters 2.5 to 3.0 cm neatly and in horizontal lines. Prepare the chart before class if possible, and check legibility by standing at the back of the room.
- Do not put more than 10 lines on one page. Do not write near the bottom of the page.

- Always ask if the material can be seen by everyone in the room.
- Write only key words. Do not try to write everything. If you have much to write, prepare it before class and use colors.
- If writing on a chart in class, do not talk facing the chart. Stop. Move aside and let the participants see what you are writing.
- Do not flip pages too quickly.
- Remove key charts and post in the classroom as they serve as a reinforcement and review to solidify learning.
- Charts prepared before class serve as notes for the presenter
- When traveling, flipchart pages already prepared can be rolled and carried easily. Store safely by rolling around a firm backing, if possible.
- Use wide, colored felt-tip markers for the charts. Watercolor type markers work best and do not come through the paper.

The easel or stand for the flip chart should be structurally strong; weak stand often presents problems.

A whiteboard is the modern day equivalent of the blackboard, for use in mobile training situations or for training projects/programs, which lack permanent facilities. The major advantage of the whiteboard/blackboard over most other training aids is that it is reusable time after time, provided that it is properly maintained. General guidelines for using whiteboards are listed below:

- Make sure your handwriting is legible. If not, print and remember letters need to be 2.5 cm high to be seen 10 m away.
- Always ask whether the material can be seen by everyone in the room.
- Write key words and phrases on the board rather than complete sentences.
- Be sure that drawings, diagrams, tables etc. are accurate and neat.
- Do not try to convey too much information on the whiteboard. If there is much data, for example, use handouts or information sheets.
- When new words such as “irrigation service fee”, “water control”, etc. are introduced, write them on the board so participants can copy them with their definition.
- After writing on the board, move out of the way – use the pointer.
- Talk to the class and not the whiteboard. One should not write for a long period without talking or participants will lose interest.
- After finishing one idea, clean the whiteboard before moving on to a new idea. This will reduce confusion of the previous idea with the new idea.
- As much as possible avoid writing on the lower part of the board, as those in the rear of the classroom seldom can see this area of the board.

Schedules

Training schedules should specify which WUAs are to be trained concerning various topics, as well as who will conduct the training and its location. The frequency, time frame, and duration of training should be convenient for the Target Group. Typically the best time for training is before and after peak agricultural periods, such as the harvest of the main crop. Most WUA staff can attend training at least once per week, except for during peak periods.

Training of Water Users' Associations is a long term process that often can involve several years. It may also be necessary to conduct follow-up training concerning specific subjects that were not adequately retained or covered in the initial training.

For each training session, a Session Plan should be created. The Session Plan should specify topics and sub-topics, duration, start and end times, methods, participants, and the trainer. A sample Session Plan is provided on the following page.

Logistics

Significant logistical preparation is required for WUA training. One of the first choices to be made is the location. Most training should be conducted on the project site, rather than in a capital or provincial city. For training off site, lodging, travel, and meals are expensive, and participants may be less comfortable than at home. With on-site training, participants are more at ease. There is also the added advantage of being within close proximity of field demonstration sites.

The training room should be comfortable and have space for desks or a large table for around 20 trainees. (It is not recommended to group train more than one WUA, because the group will be too large.) Trainers should provide paper, pens, folders, and (if required) handouts for participants.

Water or tea should also be provided as refreshments during training. If there is to be a lunch break, it is best to hire local cooks and feed trainees on site: trainees will not "disappear" during lunch break, and the meal will provide an additional opportunity to develop camaraderie.

Session Plan: Training of Afghanistan WUA Trainers, Day 4

November __, 2005
DAI Office
Kabul, Afghanistan

Topic	Sub-Topic	Duration	Start Time	End Time	Method	Participants	Trainer
IMT	Introduction/Guidelines	5			Lecture	Trainers	Mike
	Definitions and Implications	5			Lecture	Trainers	Mike
	Performance Gaps	15			Lecture	Trainers	Mike
		5			Question and Answer	Trainers	Mike
	Performance Gaps and Formation in Helmand and Herat	15			Open Discussion	Trainers	Mike
Mobilization	Initiative Group	5			Lecture	Trainers	Mike
	Mobilization Tasks	15			Lecture	Trainers	Mike
	Sub-Lateral Formation Meeting				Lecture	Trainers	Mike
		15			Question and Answer	Trainers	Mike
		15			Break	Trainers	Mike
	I&D Development and Performance Gap Needs Assessment	30			Participatory Mapping	Trainers	Mike
Formalization	Formation Committee	5			Lecture	Trainers	Mike
	Charter	5			Lecture	Trainers	Mike
	Final Preparation	5			Lecture	Trainers	Mike
	Formation Meeting	5			Lecture	Trainers	Mike
	Registration	5			Lecture	Trainers	Mike
	Memorandum of Understanding	5			Lecture	Trainers	Mike
		15			Question and Answer	Trainers	Mike
		15			Open Discussion	Trainers	Mike
TOTAL		185					

Training Delivery

Trainers should keep several things in mind concerning the delivery of training. Trainers should be aware of how they present themselves. It is important to look and feel comfortable, without appearing too informal. "Official"/business dress is not recommended. Trainers should bring a watch, as they need to keep track of times in order to stick to the session plan. Before beginning, trainers should establish guidelines concerning questions, participation in discussions, breaks, etc.

While delivering the training, body language is important: display enthusiasm and gesture, but not wildly; avoid fidgeting and nervousness. Trainers should project their voice to ensure that they heard, while avoiding shouting. The following tips may help trainers during their presentation:

- Stay on topic: avoid long digressions
- Show respect for all participants and their opinions
- Look for signs of lack of interest, misunderstanding, or confusion

- Adapt to the learning situation and change methods when difficulties arise
- Do not be afraid to repeat yourself
- Assure that less assertive trainees actively participate and are not dominated by more assertive trainees
- Do not displaying irritation when things are not going well
- Show an active interest in the progress of each trainee and commenting favorably upon the progress of deserving trainees.

Evaluation

In order to assess the impact of training, it must be evaluated. Evaluation is conducted through a variety of methods, including post-training evaluation forms, informal post-training discussions, and entry and exit testing. The evaluation should be anonymous. The trainer should not be present while the evaluation is being made, and there should be no signature/name of trainee on any forms utilized.

Because many participants in training in Afghanistan are illiterate, the best evaluation method is informal discussions in which someone records the reactions of the participants. The evaluation of a training program should include a rating of the trainer and the training methods utilized, what trainees learned, what was most beneficial, what was least beneficial, and how training could be improved. Instructors should review the results of the evaluation and utilize them to make the training program more appropriate for the needs of the trainees and more effective in delivering knowledge to them.

APPENDIX IV

**TRAINING MANUAL FOR WATER USERS'
ASSOCIATIONS IN THE RAMP PILOT PROJECT
AREAS
(Draft)**

**USAID AFGHANISTAN
REBUILDING AGRICULTURAL MARKETS PROGRAM
INSTITUTION BUILDING AND ADVISORY SERVICE TEAM
OF
DEVELOPMENT ALTERNATIVES, INC.**

December 30, 2005

TABLE OF CONTENTS

PREFACE AND ACKNOWLEDGEMENTS	61
I.INTRODUCTION	86
II.GOVERNANCE.....	88
A.Legal Framework.....	88
1. Laws	88
2. By-laws.....	88
B.Form of Entity	89
C.Membership	90
1. Eligibility for Membership.....	90
2. Member Rights	90
3. Member Duties	91
4. Register of Members	91
D.Governing and Managing Bodies	91
1. General Assembly	92
2. Management Board	93
3. Internal Audit Committee.....	94
4. Executive Committee	94
5. Membership in Governing and Management Bodies	95
6. Interaction with Outside Organizations	95
E.Property Formation	95
F.Offenses and Sanctions	95
1. Offenses.....	95
2. Sanctions	96
G.Dispute Resolution	96
III.COMMUNICATION	98
A.Forms of Communication.....	98
B.Process	99
C.Effective Communication	99
D.Adoption Process.....	100
IV.ADMINISTRATION	101
A.Facilities and Equipment	101
B.Record-Keeping	101
C.Meetings	103
D.Reporting	104
V.FINANCIAL MANAGEMENT	106
A.Budget	106
B.Irrigation Service Fee	107
C.Reserve Fund	109
D.Bank Accounts.....	109
E.Accounting	110

Job Order #44
Final Report, May 2006

1. Income.....	110
2. Expenses.....	111
3. Bank Book Procedures	112
F.Monthly and Annual Reporting.....	112
G.Audit.....	113
VI.OPERATIONS AND MAINTENANCE	114
A.Responsibilities.....	115
B.Organization of Staff	115
C.Facilities and Equipment	116
D.Administration	117
E.Maintenance.....	117
1. Planning.....	117
2. Implementation.....	118
F.Operations	119
1. Planning.....	119
2. Implementation.....	119
VII.PERFORMANCE MONITORING	121
A.Roles and Responsibilities.....	121
B.Performance Indicators	122

PREFACE AND ACKNOWLEDGEMENTS

This Training manual is aimed at providing a reference tool for internal bodies of pilot Water Users' Associations in the project areas of the USAID Afghanistan Rebuilding Agricultural Markets Program (RAMP). The manual was created by the Development Alternatives, Inc. Institution Building and Advisory Service Team for the RAMP project.

This manual relies upon a variety of sources, including the fieldwork of the project team and written sources.

INTRODUCTION

This Training manual is aimed at providing a reference tool for internal bodies of Water Users' Associations in Afghanistan in conducting their governance, administration, financial management, and operations and maintenance activities. Although the manual is specifically targeted at pilot Associations in the project areas of the USAID Afghanistan Rebuilding Agricultural Markets Program (RAMP), it is largely applicable to other parts of Afghanistan where similar institutions are being created.

A Water Users' Association is an organization that is initiated, governed, and managed by a group of water users along one or more hydrological sub-systems, regardless of the type of farm involved. Members combine financial, material, technical and human resources for the management of the operation and maintenance of the irrigation and drainage system.

The main functions of a WUA are operations and maintenance, financial management, governance, and performance monitoring and evaluation. Successfully performing these functions entails several activities that must be effectively carried out by the WUA governing and management bodies. These activities are presented in Table 1.

Table 1: WUA Functions and Activities

Function	Activity
Operations and Maintenance	<ul style="list-style-type: none">• Routine inspection of infrastructure• Major inspection• Prepare Maintenance Plan• Prepare Annual Budget and Maintenance Plan• Prepare Operation Plan• Routine maintenance of infrastructure• Periodic maintenance of infrastructure (WUA and/or tender, contract,• Emergency maintenance• Provide and maintain machinery and equipment• Provide spare parts and materials• Water distribution• Operation of drainage system
Financial Management	<ul style="list-style-type: none">• Preparation of Annual Budget• Determination of Irrigation Service Fee,• Routine budgeting and accounting• Collection of Irrigation Service Fees• Auditing WUA finances• Administration
Governance	<ul style="list-style-type: none">• Setting the irrigation and drainage service objectives, based upon members' needs• Formulating policies to meet the service objectives• Enforcement of the Charter and other by-laws• Appointing staff of the Executive Committee for implementing the WUA's policies• Monitoring, evaluating, and supervising the performance of the Executive Committee• Communication among and between internal bodies and members• General Assembly meetings• Management Board meetings• Interaction with other agencies

Function	Activity
	<ul style="list-style-type: none">• Dispute resolution
Performance Monitoring and Evaluation	<ul style="list-style-type: none">• Data collection• Proposed indicators• Performance measurement of maintenance works

This manual aims to provide basic guidance to WUAs in the RAMP project areas concerning the activities presented in Table 1. The manual is structured roughly according to the functions and activities listed in the table. The initial chapters cover governance and communication. The ensuing chapters deal with administration and financial management. The final chapters are concerned with operations and maintenance and performance monitoring and evaluation.

GOVERNANCE

A Water Users' Association has governance and management. Governance functions are overall policymaking, decision-making, and representation. Management functions include day-to-day implementation and decision-making. Good governance is necessary for sound management. The benefits of good governance include accountability of the WUA internal bodies to the members, participation of members in decision-making, improved equity among members. This chapter describes the legal basis for WUA governance, the rights and duties of members, the governance functions and decision-making procedures of internal bodies, and procedures for dispute resolution.

Legal Framework

The foundation for governance of WUAs is the Water Law, Model Charter, and Model Internal Regulations, which specify the powers and responsibilities of the members, internal bodies, and employees of the association as well as sanctions for anyone who violates those rules and regulations. In this way, the legal framework functions to protect the rights of the WUA members.

Laws

Several laws are applicable to the governance of Water Users' Associations in the RAMP project areas. These are as follows:

- The Constitution
- The Civil Code permits the establishment of WUAs as a private company.
- The Water Law regulates provides the basis for the establishment of a WUA as a legal entity, the terms of ownership of irrigation and drainage infrastructure, the association's operations and maintenance services, dispute resolution by WUAs, and state regulation and support of associations. Specific reference is made to the Water Law below where appropriate.

By-laws

The by-laws of a WUA specify the rules and procedures for its governance. By-laws include the Charter, the Internal Rules and Regulations, and the Memorandum of Understanding.

Every Water Users' Association is required by law to have a Charter, which is the main internal governing document of the WUA. The Charter specifies the rights and duties of WUA members and the WUA's governing and management bodies.

Some aspects of the Charter will be fixed in the law, such as a requirement that a WUA contain an audit system. However, the law also permits a degree of variation in the final form of each WUA and each WUA Charter. Model Charters or their component provisions, can be used to prepare the Draft Charter of an actual WUA. The law may not require that the actual wording of the Model Charter be used, provided that the relevant provisions comply with the WUA law.

Owing to its importance and the significant preparation required to ratify or amend it, a Charter requires careful consideration from the outset. WUA founding members and

General Assembly should study the law thoroughly and if necessary seek legal advice before making choices concerning its Charter.

The Charter should include:

- The name, objectives, purposes/functions, rights, and duties of the WUA
- The location of the permanently operating governing and management bodies
- The territory within the limits of which the WUA carries out its activities
- The form of legal entity
- The terms and procedures for acquiring and terminating membership
- The rights and duties of members
- The WUA's internal organizational structure: governing and management bodies
- The authority and the procedure of forming governing and management bodies and the terms of their offices
- The sources of forming monetary funds and other property and the structure of property management
- The procedure of reorganization and liquidation of the WUA
- Sanctions for violation of the law, charter, and internal rules
- The procedure for approval and introducing changes and amendments into the charter

A Charter cannot address all aspects of a WUA's activities. Some issues, such as the procedures for distributing irrigation water, are too complex to be described in the Charter and may in any event need to be varied frequently on the basis of practice. For this reason a WUA is entitled to make its own Internal Rules and Regulations, on the basis of the relevant laws and the Charter. The internal regulation basically deals with management functions of the WUA, such as financial management and operations and maintenance. It also rules and regulations for dispute resolution in accordance with the Water Law.

Form of Entity

A Water User's Association has its legal personality separate from its members. It may perform any act that a legal entity can perform under the law. A legal entity has the following characteristic features:

- It shall exist in perpetuity unless dissolved by members or by operation of law.
- It shall have a unique seal of its own for purposes of its business.
- It may have the right to acquire, enjoy, sell, dispose by any means movable and immovable property; enter into contract; receive and pay loans; open and manage a bank account; collect fees from members for administration, operation and maintenance of the water resources facilities and set fines for infringement of its regulations payable to the Association.
- It may sue or be sued in its corporate name.

The form of legal entity of Water Users' Association is a non-governmental and non-profit association, because it is neither established nor managed by government. Instead, it is an association of water users who pool their resources for common social benefit and establish it and operate it. Moreover, WUAs operate on a non-profit basis—income generated in the course of its operation is not distributed among the members, but rather the surplus goes to the reserve fund of the association.

The reorganization, merger, or dissolution of WUA as a legal entity requires compliance with provisions of the Charter and the applicable laws of the country. The resolution process must be in accordance with the procedure that is stipulated in the Charter, which requires two-thirds of the votes of the total membership of the General Assembly. In the event of reorganization or merger, the Charter must be registered again with the Ministry of Justice.

A WUA can be dissolved under those situations that are foreseen under the law or by resolution of members. Normally, the members will appoint a liquidator for the dissolution of the WUA. It is the duty of the liquidator to realize the assets of the WUA and to pay all its debts and obligations. All surplus assets shall be transferred to an Association or institution with objectives similar to the Association. They will not be distributed among members.

Membership

Eligibility for Membership

A WUA is a voluntary association, and its membership is open to 1) farmers who possess the right to use irrigated land with a tenure of at least five years or 2) legal entities that possess the right to use more than 10% of the Association's water for non-irrigation purposes. Representation of membership for eligible non-irrigation entities corresponds to the amount of the WUA's water that it utilizes. For example, the city of Herat receives a considerable amount of its municipal water supply from neighboring irrigation systems and thus has a right to hold membership in WUAs from which more than 10% of the water abstracted is delivered to Herat.

Members are those eligible to join the WUA who vote for General Assembly members in sub-lateral formation meetings, as well as eligible farmers and other water users who choose to join the Association after its formation. New entrants are admitted by decision of the General Assembly.

Members who repeatedly violate the rules of the Charter may have their membership terminated by the Assembly. Persons are not allowed to be re-admitted to membership more than two times, after which termination of membership is permanent.

Non-members within the service area of a WUA are subject to same rules as the members. However, they may not participate in elections and other policy-making and decision-making activities of the WUA.

Member Rights

WUA members have the following rights:

- Fair share of the water
- Vote in elections and participate in decision-making process provided that he paid all requisite charges concerning with activity of the Association;
- Access information about the Association
- Propose agenda items for discussion at meetings of the General Assembly

- Nominate candidates for and stand for election to the Management Board
- Benefit from WUA services

Member Duties

All members of the association are bound to:

- Observe the provisions of the Charter and by-laws
- Observe all O&M rules
- Comply with the watering schedules
- Promptly to pay any charges
- Avoid damaging WUA property: liability payments
- Provide information to the WUA concerning land and water use
- Permit right-of-way to WUA staff

Register of Members

WUAs should maintain a list of members that specifies the farm boundaries, irrigated area, and cropped area. Where parts of an irrigated area, farm, or plot are used for other purposes, this information should be noted and recorded. This register must be updated after each season, in order that the Association can accurately calculate the service fees to be levied upon individual members.

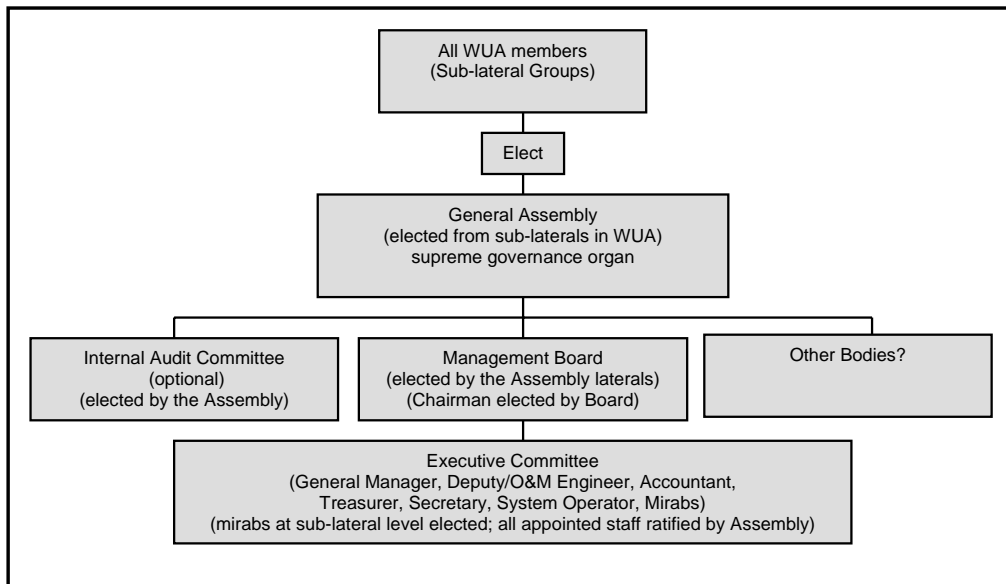
Governing and Managing Bodies

It is important that WUA staff and members understand the distinct governance and management functions of the internal bodies of the association. These are as follows:

- General Assembly: representation of members of sub-laterals in order to supervise and establish mandates for the Management Board and Executive Committee.
- Management Board: representation of the General Assembly in order to supervise the Executive Committee and ensure that it executes the mandates of the General Assembly.
- Executive Committee: execution of the mandates of the General Assembly through day-to-day management and decision-making.
- Internal Audit Committee: representation of the members in auditing the WUA's finances, independent of the Management Board and Executive Committee.

This structure of representation is necessary because in an Association with many members, the General Assembly can only meet a few times per year. The Management Board convenes more frequently and can thus monitor and supervise the Executive Committee much more effectively. The structure of a WUA according to the Charter and Internal Regulations is presented below in Figure 1.

**Figure 1: Organizational Structure of a WUA
According to the Proposed Model Charter and Internal Regulations**



General Assembly

The General Assembly is the highest decision making body of the association. Its members are elected from sub-laterals. The Association may establish the number of General Assembly members in accordance with the amount of irrigated area or water used by various sub-laterals.

The following comes within the competence of the General Assembly:

- Approval and amendment of Charter and by-laws of the association;
- Approval of annual operation and maintenance plan;
- Approval of budgets and irrigation charges;
- Approval of annual report and accounts;
- Voting on the dissolution or merger of the association;
- Election of members of Management Board for specific period of time; and
- Removal of members from the Management Board.
- Decision on the type of community work (hashar) regarding cleaning, repair of the main canal, duration and volume of work for each year;
- Approval of contracts between agencies regarding construction and rehabilitation of irrigation systems;
- Approval of request for credit from a related bank for repair, maintenance, rehabilitation and improvement of irrigation system if it could not be covered by the approved annual budget of the Association; and
- Evaluation of other issues that need collective decision.

The General Assembly has two types of meetings: ordinary meetings and extraordinary meetings. The ordinary meeting is held normally at least twice annually. The meetings should be held in between irrigation seasons, in order that the activities of the Association for the upcoming season can be discussed and approved. Prior to

the upcoming financial year, the Annual Report, proposed Annual Budget, and Operations Plan should be discussed and ratified or rejected. In the meeting following the previous financial year, an audited financial statement of the Association's accounts for this financial year shall be tabled. An extraordinary meeting of General Assembly is called by the approval of Management Board as it deems necessary for considering and taking decision on periodic and emergency matters, or by a written request of at least 30% of the membership of the Association. The General Assembly may have its own speaker who is solely responsible for arrangement of the agenda and chairing the General Assembly.

A General Assembly meeting can only be held if two-thirds of members are present. If the meeting can't be held due to lack of quorum, the second meeting can be held only with a majority of all members present and if the meeting is not called for considering amendment, dissolution, union or amalgamation of the association with other associations.

Each member is entitled to one vote. Decisions of the General Assembly shall be taken either by two-thirds of votes of members or by simple majority vote. Decision of the General Assembly is normally taken by votes of two-thirds of total members with respect to amendment of Charter of the Association, dissolution of the Association, merger or union of Association with other associations and removal of members of Management Board. Decisions of such matter shall be recorded at the related legal entities. Decisions with respect to exercising all other powers mentioned in this Charter of the General Assembly shall be taken by a simple majority of votes of members present. On matters of extreme importance, the General Assembly can also call 'farmers gathering' before deciding matters.

The Secretary of the WUA takes minutes of the meeting. The minutes are to be signed by the Chairman of the meeting and the Secretary.

Members to the General Assembly shall be for two years at the expiry of which a fresh election shall be held. Members are entitled for re-election

Management Board

Members of the Management Board are elected from among members of the General Assembly. The General Assembly may determine the method of the election. One method of the election shall be based on representation with due consideration with the irrigation system. For instance, the representative of one lateral may hold election among themselves and anyone who gets the highest vote shall be elected as member to the Management. Another method will be that an election shall be held among members and those who got the highest votes are elected as members to the Management Board.

The Management Board shall be led by a Chairman. The Chairman is elected by a majority of the total membership of the Management Board. The Chairman may be a member of the Management Board or any other member of the association.

To the competence of Management Board are the following:

- Calling of meetings of the General Assembly;

- Election or appointment of Chairman from among themselves or from among other members of the General Assembly;
- Monitoring the activities performed by the executive committee of the WUA;
- Preparation of agenda of the General Assembly;
- Ensuring that the financial and accounting procedures are followed as foreseen by the Charter and by-laws of the Association;
- Resolving or taking any appropriate action with regard to any differences that is not solved by the Executive Personnel;
- Representing the WUA to outside agencies;
- Other issues determined by the General Assembly or specified by the law of the country.

The Management Board hold a meeting when a need arises and at least one meeting shall be held for each month. A meeting can only be held if two-thirds of the members of the Management Board are present. If a decision is taken on vote, it shall be taken by an absolute majority of votes with respect to entering into contract, agreement or doing any financial transaction and by a simple majority of votes with respect to other matters.

Internal Audit Committee

WUAs may establish an Internal Audit Committee. This body provides the critical governance function of ensuring accountability in the WUA's financial management to its membership. The Internal Audit Committee is comprised of three members elected for a two-year terms by a majority of all the members of the General Assembly. Internal Audit Committee members are eligible for re-election. The main tasks of the Committee are the inspection and review of all financial books and documents, as well as the preparation and presentation of audit reports and recommendations to the General Assembly. If an external audit is conducted, the Internal Audit Committee should select the auditor and supervise the execution of the external audit.

Executive Committee

The Management Board may either establish an Executive Committee or appoint a General Manager who establishes it. The General Manager is responsible for all administrative and managerial tasks of the Association. The following comes within the competence of the General Manager:

- Preparation of budgets and plans;
- Hiring and firing lower employees;
- Monitoring;
- Operation and maintenance of the irrigation system;
- Financial management;
- Infrastructure rehabilitation;
- and conflict resolution

The General Manager is appointed for a specific term by the Management Board and the appointment should be approved at the General Assembly.

Appointments of line staff of the Executive Committee shall be approved by the General Assembly in the next meeting after the appointment.

Membership in Governing and Management Bodies

There must be a separation of powers in WUA governing and management bodies in order to avoid conflicts of interest. Therefore, Executive Committee members may not

simultaneously be members of the General Assembly or Management Board. Management Board members may have positions on the General Assembly.

All members in General Assembly and the Management Board must be members of the Association, because their mandate is to represent other members. Therefore, an outsider can be a member of neither the General Assembly nor the Management Board.

Interaction with Outside Organizations

The association in performing its functions has different levels of interaction with outside organizations. It may relate to the daily operation of the association and in such case the General Manager or the Deputy General Manager may be involved in those matters.

Matters involving contracts, agreement and representation of the association are solely within the competence of the Chairman of the Management Board. The Chairman represents the association in dealing all types of contracts, agreements and transactions with outside organizations. All acts done by the Chairman of the Management Board is deemed to be an act of the Association.

Property Formation

The association may own or manage different types of property, which may include:

- Irrigation and drainage infrastructure, facilities, equipment at time of formation and transfer
- Fees in cash and kind
- Other sources of property not forbidden by law, such as loans and grants

The maintenance, management and supervision of the property of the association are the responsibilities of the governing and management bodies. The members and General Assembly are the owners of the property and have the ultimate decision making powers. The Management Board supervises the maintenance and management of the property on behalf of General Assembly. The Management Board acts as the implementer with regard to the maintenance and management of the property of the association.

Offenses and Sanctions

Offenses

The offenses include the following:

- Damaging or tampering with irrigation system, stream gauges, and level marks
- Interfering with system flow; unwarranted opening and closing of off-takes; causing damage to neighbors

- Willfully wasting water
- Polluting water
- Non-payment of service charges
- Failure to fulfill hashar obligations

Sanctions

If any person does the above acts commit an offence. The association in such a situation may take action against the offender, which includes the following:

- Impose fine upon the offender, the amount of which may be determined by the Management Board in accordance with the laws of Afghanistan and the Charter of the association;
- Deny the offender the right to vote;
- Cut-offs the water from the offender;
- Put social pressure upon the offender to comply with the rules and regulations of the association;
- Refer the case to an appropriate outside authority; and
- At last resort, the association can claim suits in local courts.

Dispute Resolution

Dispute with respect to duration, turn and quantity of water or any other on-farm disputes shall be resolved first by the respective Mirab and hydro-technical operator through participation of the parties concerned.

Mirabs should focus upon consultation between the parties in order to achieve a resolution by consensus, rather than binding arbitration. The first step is to meet with the parties separately, conduct independent research into the problem, and then bring the parties together in a meeting or series of meetings. It is best to have a small number of participants in these meetings to permit maximum interaction and discussion. Thus, for disputes between villages, representatives will need to be appointed for the meeting. The Mirab should attempt to have the disputants agree upon a shared definition of the problem areas of disagreement and share information and perspectives. It may be necessary to assist the meeting participants in gaining a realistic view of the other's position. If possible, the disputants should agree upon a procedure for resolving the dispute. After issues have been defined to everyone's satisfaction, they should be discussed and/or resolved one at a time. If the dispute involves a substantial degree of conflict, it may be best to postpone resolution of major issues until after minor issues are resolved. The Mirab should make clear that he or she is attempting to find a solution acceptable to all parties—any dispute settled entirely in favor of one party or another is much more likely to reappear in the future than a dispute resolved by conciliation and consensus.

If the dispute between parties cannot be resolved by the Mirab, it may be referred to the General-Manager or his Deputy. If a dispute cannot be resolved by the General-Manager or his Deputy, it may be referred to the Management Board. The Management Board may deal with the dispute as follows:

1. The Management Board may resolve the problem or the dispute by passing a decision to that effect.

2. If dispute is between the Association and an entity or with another association, the Management Board may refer the matter for arbitration if it is considered appropriate.
3. If the members of Management Board think that the matter requires discussion and decision of the General Assembly, an extra-ordinary meeting of the General Assembly will be called. The process of discussion should be similar to that recommended above for mirabs.

If the dispute cannot be resolved through arbitration or by the General Assembly, it can be referred to the Sub-Basin Council. If the dispute cannot be resolved by the Sub-Basin Council, it can be referred to the River Basin Council. If the dispute cannot be resolved by the above authorities, after consultation with the Ministry it can be referred to the concerned legal authorities for resolution.

COMMUNICATION

Information access is a key factor in successful management of Water Users' Association. Access often depends upon communication. WUAs require a constant flow of information between and among members and staff, as well as with outside agencies—completing even the simplest task depends on the successful communication of information requested and provided. Moreover, communication is needed for effective participatory analysis of the WUA members' needs, as well for education and training. Table __ outlines the benefits and costs of good and poor communication, respectively, in understanding of rights, roles, and responsibilities and water availability and use.

Table : Benefits and Costs of Good and Poor Communication

Information	With Good Communication	With Poor Communication
Information on the rights roles and responsibilities of water user	Water users are aware of their rights, roles and responsibilities, and having participated in their formulation, agree to abide by them.	Water user have not been involved in the formation of their tights, role and responsibilities within the WUA, do not know what they are, and do not abide by them
Information on water availability and use	Water users are kept informed of the water availability, and of who is using the water. Water distribution is open and transparent, and fair.	Water users are not kept informed of the water availability and use, and cannot obtain this information from the WUA. Water users are suspicious and may believe that others are getting more than their fair share. There may be conflict.

This chapter outlines forms of communication, describes the communication process, and provides practical steps to overcome barriers to communication.

Forms of Communication

Oral Communication is communication transmitted through speech, such as personal conversations, speeches, meetings, telephone conversations, etc. A vital component to oral communication is listening. Listening is the skill of receiving a message and interpreting its genuine meaning by accurately grasping the facts and feelings conveyed

In the context of WUA formation and development, written communication is often favored by the professionals involved in the process, but is not effective amongst the rural community if they are not literate (even if they are literate farmers are generally not renowned for wanting to read printed material). Written material can be valuable for communicating between professionals involved in WUA formation, who can then, in turn, communicate the information verbally to their rural groups.

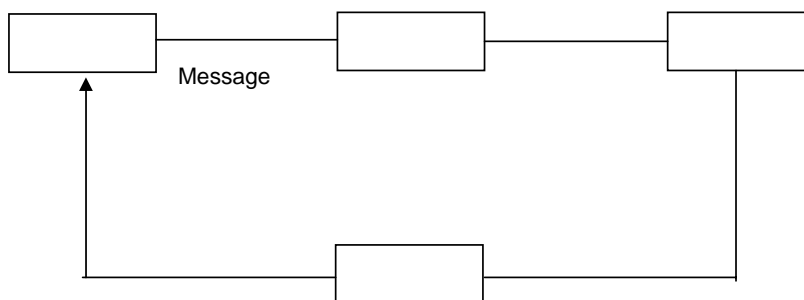
Visual message are a powerful medium for conveying messages- “a picture says a thousand words”. They can be used on their own, or to reinforce oral and written messages. Conversely the wrong visual message can have a damaging and often long lasting impact- people can often recall the image but not the words. Photographs and videos are now widely used for communicating information.

Process

Communication is used to inform others of our needs, inform us of other people's needs, warn people, educate, and inform. This is done through a process involving five main components, which are described below and presented in Figure _:

- Sender: originates and sends the message. Since the sender is the one who originates the message it is his or her responsibility to ensure that the message is perceived in the manner intended.
- Message: words and/or nonverbal expressions that transmit meaning.
- Channel: the means used to pass the message, such as telephones, computers, and face to face conversations, memos, or e-mail.
- Receiver: the ultimate destination of the sender's message.
- Feedback: the response that a communicator receives to a communication. For example, during a meeting General Assembly members provide feedback to reports and proposals of the Management Board.

Figure _: The Communication Process



Effective Communication

Barriers impede effective communication. These are listed below:

- Lack of awareness: people may not realize that the message relates to them and can help them.
- Distraction: people may not respond to a message as it may not satisfy their immediate needs. If people are suffering with their basic needs, if they are hungry, or short of water, they may well not be interested in the message that is being conveyed.

- Prejudice: water users may be suspicious of messages brought in by external agents, or by government. This prejudice relates to the community's previous experience, or even lack of experience, with the outside world. Development fatigue occurs sometimes when local communities have had bad experiences with previous development initiatives.

Adoption Process

Formation and development of WUAs involve many new concepts that must be adopted by the members and staff. It must be borne in mind that during the adoption process communication and information provision must be maintained throughout all the stages, though its nature will be different at each stage. The stages of the adoption process are listed below:

- Awareness: people are aware of the process, concept or idea, but know little about the detail and what it involves.
- Interest: people want more information about the process, concept or idea. They want to know how it works, what it involves, and how it will affect them.
- Information seeking: start to ask their friends and other farmers what they know about the process.
- Information Seeking: farmers may try to find out information from relatives or others in different communications where the process has been tried.
- Evaluation: based on the information received people evaluate the process and decide whether it is of benefit to them or not.
- Trial: if the initial evaluation is positive, people will give the process a trial. The duration of the trial will vary from person to person.
- Adoption: if the trial proves beneficial people will adopt it and make it work. They may well encourage others to try the process as well.

ADMINISTRATION

WUAs require administration to provide support for its management and governance functions. The complexity of office administration depends upon the size of the WUA (in terms of area and members), the number records that it utilizes, and the procedures utilized (number of meetings and their recording and filing, etc.). The ensuing chapter provides WUA staff with some basic principles and practices concerning how to keep office records, how to manage meetings, how to write reports, and we have provide some notes about office correspondents and office facilities.

Facilities and Equipment

The Executive Committee is responsible for the day-to-day running of the work of the WUA. The Executive Committee will require and office and equipment. Ideally, the office will contain a training room. If the WUA has to collect its Irrigation Service Fee in kind, a guarded warehouse for storage and transportation must be arranged.

Equipment should include the following:

- Filing cabinet(s) and an archive for files;
- An office table and chairs for the Chairman of the Management Board, General Manager, Accountant, Secretary, Treasurer, O&M Engineer, and other senior staff;
- White boards and message boards, as necessary;
- A cupboard for the storage of office supplies;
- A photocopy machine; and
- A safe.

A computer with applicable software and a printer is also desirable. In addition, a WUA may also require communication equipment such as a base receiver and walkie-talkies, aerials, etc. This equipment should be placed as part of office equipment as base set. Its location should be where the O&M engineer has his office.

Record-Keeping

Informal community water management in Afghanistan utilizes a minimum of record-keeping. Most farmers and many mirabs do not read or write. However, the creation of WUAs capable of accurately planning operations and maintenance and monitoring finances will entail the introduction of a system of records. Thus, initially this system must be simple and possible aggregated at various levels of the system, e.g. sub-lateral or village level. It may also be necessary for senior WUA staff to generate records in instances where ordinarily line staff such as mirabs carries out this task.

Table __ below lists some basic records that may be utilized, as well as the staff or WUA members responsible for generating the records. The purpose and utilization of many of these records is explained in the ensuing chapters of this manual.

Table __: WUA Records

Record	Responsible Party
Chart of accounts (list of books and records and their locations)	Secretary
Register of Water Users (members and non-members & agricultural and non-agricultural users)	Mirabs
Maps: Location of the WUA and/or Project; Irrigation and Drainage System	General Manager O&M Engineer
Design and Operational Design Criteria of the Irrigation and Drainage System (if available)	General Manager O&M Engineer
Cropping Plan	Mirabs
Maintenance Plan	General Manager O&M Engineer
Operations Plan	General Manager O&M Engineer
Contracts with Farmers, Water User Groups, or Outside Bodies	Mirabs Chairman General Manager
Water Service and Delivery Records	Mirabs
Budget	Accountant General Manager O&M Engineer Management Board
Annual Report	Management Board Executive Committee staff
Performance Monitoring Records	Executive Committee staff
Accounting Books and Records	Accountant Treasurer
Auditor's Report	Audit Committee
WUA By-Laws and Water-Related Legislation	Chairman General Manager
Minutes and Protocols of General Assembly and Management Board Meetings	Secretary

After these records have been generated and utilized by the responsible parties, they should be filed in an archive at the WUA's office. All records must be accessible to WUA members for verification. However, the original copies should not leave the WUA Office except in the hands of Management Board and Executive Committee staff, who should sign a register in the archive for this purpose.

There are several possible filing systems. These are listed below:

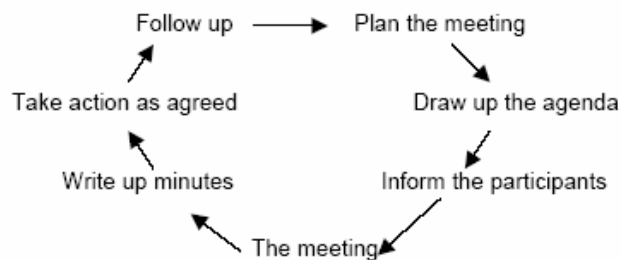
- Numerical System: files are labeled by number; for example, 01 represents first Sub lateral, 02 represent second Sub Lateral and 03 represents third Sub Lateral.
- Alphabetical System: different files are represented using abbreviations. For example FD, HRD, AD where FD represents the Finance Department, HRD Human Resource Department, AD Admin Department.
- Geographical System: files are classified by the number or name of specified area. For example Block-1, Block -2 or the name to the village.
- Categorical System: files are categorized by the names of the subject, department, or staff members. For example: area related to Mirab Ahmad, or Mahmood.

Meetings

The purpose of formal meetings is to share information, make decisions, report, and discuss future plans. The most important meetings of a WUA are those of its General Assembly, which convenes twice per year, and the Management Board, which meets on a monthly or quarterly basis.

These meetings require significant planning, preparation, execution, and follow-up by the Management Board and Executive Committee. This process is presented in Figure __ below.

Figure _: Meeting Process



The Management Board, with support from the Secretary, manages the process of preparing for the General Assembly meeting. Assembly member should be invited a month ahead of time. The invitation should include the agenda of the meeting in order that Assembly members can discuss the relevant issues with the WUA members whom they represent. The meeting place should accommodate all members comfortably in an arrangement where they can easily view the chair of the meeting and be recognized by him or her.

The Chairman of the Management Board or an appointed Speaker of the General Assembly supervises the General Assembly meeting. He or she should be sure that a proper agenda is drawn up, in consultation with the Management Board, the relevant staff of the Executive Committee, and Assembly members. Before the meeting he or she should discuss with these bodies what is on the agenda, why it is there, who will introduce each item, and how long each item is likely to take.

Minutes should be taken for important meeting like those of the General Assembly in order to document the roster of attendees, discussions, recommendations, and designation of responsibility for action items. The minutes will be record for those who in the future want to know what the group has done. Minutes should include the following items:

- The name of the organization;
- The date and location;
- Members present;
- Others present and in what capacity (for example as staff, observer, visitor);

- Agenda;
- Name of chairman and minute taker;
- Approval of the previous meeting (correction if any to the minutes of the pervious meeting, and the fact that the minutes were accepted as an accurate record);
- Items discussed, including matters arising from the previous meeting;
- Decisions and resolutions: action required implement the decision, who will take the action, and deadline or time limit for the action
- A report for implementation of Action Items,
- Date time and place of the next meeting,

The minute taker should record the main points of the discussion and any decisions accurately and clearly and in such a way that information can be easily located and understood if someone has to refer back to it.

Reporting

Reports serve the purposes of transmitting information to the internal bodies of the WUA for monitoring, planning, decision-making purposes, and may be required by outside bodies for monitoring and policymaking purposes. The purpose of a report depends largely on the intended audience. Examples of internal reports are monthly reports of the Executive Committee to the Management Board, semi-annual reports of the Management Board to the General Assembly. External reports may include operational and financial data required by state agencies and/or project units.

Written reports should accompany oral reports to the Management Board and General Assembly. These should be compiled so that the reader can locate information easily. The items listed below should be included into the topical page of report:

- Name of the association;
- Department;
- Address of the association;
- Aim of the report;
- Number of the beneficiaries;
- Name of receiver;
- Action Items; and
- Date of submission

The body of the report should state what has occurred compared to what was planned, describe unexpected contingencies, provide indicators concerning whether or not objectives are being met, and discuss problems and what is being done about them.

The most important report of a WUA is the Annual Report, which is presented by the Management Board to the General Assembly in the meeting preceding the upcoming financial year and irrigation season. The format of the Annual Report is at the discretion of the Assembly. The Annual Report usually contains the following contents:

- General overview and summary of past year;
- Cropped areas: plan and actual;
- Irrigation deliveries: plan and actual;
- Irrigation efficiencies, less or more water, farmer usage, wastage;

- Maintenance works: plan and actual (routine, periodic, and emergency); achievement of works (in or out of budget);
- Actual maintenance status of system;
- Operation of system: plan and actual;
- Staff: plan and actual (current needs sufficient or need for additional, performance);
- Financial information: balance sheet, planned and actual expenditures, planned and actual revenues, income and expense statement;
- Annual Budget;
- Irrigation Service Fee;
- Planning recommendations for the next year: crops, water, operation objectives, maintenance objectives, staff requirements, training needs, needs for material and supplies, finances.
- Performance monitoring and evaluation: plan and actual; and
- Summary of the evaluation and recommendations for improvement.

FINANCIAL MANAGEMENT

Financial management in a Water Users' Association entails the receipt, maintenance, expenditure, and accounting of the Association's assets. Sound financial management enables the WUA to effectively use assets for the benefit of the members, to achieve financial viability, to readily explain its financial condition, and to establish and maintain the confidence of its members. The most basic tasks of financial management for a WUA are the following:

- Preparation of a Budget
- Calculation of Service and Other Fees
- Collection of Service and Other Fees and Fines
- Accounting and Financial Reporting
- Preparation of an Inventory of Assets
- Annual Audit

Many financial management tasks, especially accounting and auditing, are seldom practiced in rural Afghanistan. Most water users and Mirabs are unaccustomed to financial paperwork. Therefore, it may be necessary to gradually introduce certain aspects of financial management. For example, in a WUA that serves over one thousand water users, calculation and collection of service fees might be aggregated at a certain level during the initial years of the WUA's existence.

Budget

Financial management begins with the preparation of the Annual Budget prior to the General Assembly meeting in advance of the financial year. The General Manager with the assistance of the line staff and Accountant creates the proposed Operation and Maintenance Plan and Annual Budget and submits them to the Management Board for review. After any necessary changes are made, the Management Board or the General Manager present the proposed Operation and Maintenance Plan and Budget to the General Assembly for review, revision, and approval. The presentation of the proposed Operation and Maintenance Plan and Budget may be part of the Annual Report (described in Chapter ____). The Assembly reviews the WUA's Balance Sheet, Income and Expense Statement, and Audit Report before it examines the proposed Budget.

Budget formation begins with the calculation of expenses entailed in the Operation and Maintenance Plan, as well as other costs (taxes, office supplies and utilities, purchase of equipment, loan payments, etc.). Expenses are entered into the right column of the budget. For purposes of calculating the Irrigation Service Fee, it is useful to distinguish between fixed and variable costs in the budget. (Fixed costs refer to the costs associated with a service such as operations and maintenance that are fixed over a number of units.) A sample budget structure is presented below.

Sample Budget Structure

200_ Budget of the _____ WUA					
Date Approved: _____					
Service Area: _____ Jiribs					
Number of Members: _____					
Income			Expense		
Item No.	Description	Amount	Item No.	Description	Amount
	Operating Income			Variable Costs	
1	Irrigation Service Fee		1	Staff Director, salary	
	<i>In Kind: Wheat</i>			12 months @ ?? Afghanis	
	<i>In Kind: Labor</i>		2	Accountant, salary	
	<i>In Cash</i>			12 months @ ?? Afghanis	
2	Other Fees		3	Mirabs, salary	
	Non-Operating Income			12 months @ ?? Afghanis x no.	
4	Fines/Penalties		4	Maintenance workers, salary	
5	Interest Income			6 months @ ?? Afghanis x no.	
6	Miscellaneous Income		5	Social Security Tax	
7	Grants (proposed)		6	Salary Bonus	
8	Loans (proposed)		7	Office Rent	
			8	Office Supplies	
			9	Electricity (Office)	
			10	Telephone	
			11	Fuel, Oil, and Grease	
			12	? Tax	
			13	? Tax	
				Fixed Costs	
			14	Equipment Purchase	
			15	Equipment Repair/Maintenance	
			16	Transport Repair/Maintenance	
			17	Maintenance Materials	
			18	Channel Cleaning	
			19	Miscellaneous Expenses	
			20	Loan Repayment/Interest	
			21	Contingencies	
			22	Reserve Fund	
Income	Total		Expense	Total	

The income side of the budget includes operating and non-operating income. The most important item of operating income, the Irrigation Service Fee (ISF), is based upon the expenses included into the annual budget. It is important that the ISF include preventive maintenance, development, and depreciation costs. Postponement of minor repairs will lead to much larger outlays for major repairs in the future.

During the financial year the Accountant should keep a close look at the actual income and expenditures and compare these with the budgeted amounts. The Accountant provides the General Manager and the Management Board with a budget-to-actual comparison monthly in order that appropriate action can be taken if a problem appears.

Irrigation Service Fee

There are several methods of calculating the Irrigation Service Fee. The most accurate method is based upon the amount of water allocated to each farm. However,

water measurement is not accurate enough to facilitate this. Therefore, a method with a higher margin of error, based upon jiribs irrigated, is recommended. The most simple way of calculating ISF in this manner is to divide the expenses of the WUA by jiribs irrigated and assign the fee on a per jirib basis. (See Figure __ below).

Figure __: Simplified ISF

<u>Total Expenses</u> Jiribs Irrigated (Year)
--

A differentiated calculation, consisting of upon fixed and variable cost components, is more equitable and effective. Because they are the owners of the system, all water users must pay the fixed cost component. This includes all maintenance costs, divided by a long term average of jiribs irrigated. Moreover, the WUA is guaranteed income to maintain the infrastructure in extremely wet or dry years when farmers may not order irrigation water deliveries. Only those who order water pay the variable cost component, i.e. the salaries of the staff that will deliver the water. After they are calculated separately, the fixed and variable cost components of the ISF are added together and levied as a single fee.

Figure __: Differentiated ISF

Fixed Cost Component	Variable Cost Component
<u>O&M Expenses</u> Jiribs Irrigated (Long Term)	<u>Salaries and Admin. Expenses</u> Jiribs Irrigated (Year)

Presently water users pay for water delivery in wheat and for maintenance by labor and materials (hashar). Very little cash is utilized. Until cash payment becomes predominant a system of accounting for in-kind income values (according to prevailing rates) must be worked out, as well as procedures for the storage and use of farm products. Standards should be adopted for evaluating the quality of products and the effectiveness of work. For in-kind products, the WUA will incur expenses for storage and protection, transport, and marketing.¹ In order to cover these costs, ISF paid with wheat should be 20-30% higher than ISF paid in cash or labor.

Terms of levying service charges can be specified in the Charter, Internal Regulations, and written or oral contract. The following terms should be understood by the WUA and water user:

- Name of the farm to be served and area to be irrigated
- Source of the water to be delivered
- Duties and obligations of both parties in operations and maintenance
- Penalties to both parties for non-fulfillment of the contract
- Amount of pre-payment required for water delivery

¹ Moreover, payment in-kind subjects WUA budgets to changes in market prices for agricultural products.

- Rights and responsibilities of both parties in the event of unexpected contingencies, such as natural disasters
- Procedures required to fulfill the contract
- Schedule of delivery

The Management Board proposes the ISF to the General Assembly for approval or rejection. It is important that the Assembly establish when (date and time) and where (location) the ISF is to be paid, as well as fines and penalties for non-payment and sanction policies. Payment dates should coincide with periods when farmers possess the cash, in-kind products, and/or labor for payment. If possible, payment for service charges should be collected before water is delivered (as for hashar, which presently constitutes the bulk of service payment).

Generally it is best to have all fees be paid directly to the WUA office into the care and control of the Treasurer. The fewer people that actually handle the money, the less the opportunity for mishandling and theft of WUA assets. In WUAs with large numbers of members, this may not be feasible initially, and a transitional mechanism may be required. In the first three years of the WUA, the collection process might be aggregated at the level of 1) the Qaryadar, who would collect ISF in in-kind products and in cash from a group of villages and 2) the Mirab who would collect ISF in labor by means of the hashar.

If in-kind payments are accepted by the WUA, farm products are delivered to a guarded storage facility, rather than the office. The Treasurer supervises the handling and storage of in-kind products, and the Accountant establishes procedures to account for payments and assets in kind.

In the event of non-payment of a service charge, the Treasurer should issue a warning to the delinquent water user. If this fails, the Treasurer (or Accountant) and Mirab can levy a fine upon the delinquent water user, to be collected by the Treasurer (or Accountant). Finally, the Mirab can cut off water supply to the user, by order of the Management Board, until the delinquent amount is paid. Another “final” option is the termination of the water users’ membership.

Reserve Fund

The Reserve Fund is utilized to undertake repairs, provide funds for the development of the irrigation and drainage system, and cover the cost of emergency situations. It should be established as a separate bank account, into which the General Assembly authorizes deposits. Any positive balance remaining at the end of the financial year should be deposited into the Reserve Fund. The Irrigation Service Fee should be established at a level high enough to permit the formation of this positive balance.

Bank Accounts

A well-functioning bank account makes it possible for the WUA to properly account the cash received by the WUA. Registration of WUAs as a legal entity makes it possible for WUAs to open a bank account. However, in many areas banks are not readily available to handle daily financial transactions. In this instance, a secure storage facility, such as safe, should be kept in the WUA office, in order to protect the financial assets of the WUA. Ideally, the Treasurer keeps the money received in a

certified registered Bank and only small amount of petty cash for daily use is kept in a safe.

Accounting

Accounting consists of the analysis, recording, and summarizing of financial transactions, i.e. maintaining a systematic and transparent record of all incomes and expenditures. Because many Accountants, General Managers, Management Boards, and Internal Audit Committees do not possess developed accounting skills, this manual presents a simplified double-entry accounting method. It will accomplish the same purpose as the standard double-entry method and will suffice until WUAs develop more professional financial management skills. Trained accountants not need to change their method of accounting as long as it accounts for all income and expenses, is open and transparent, and reflects the overall financial status of a WUA.

Income

All cash payment should be paid to the Treasurer of the Association. When a payment is made, a receipt is made in triplicate (an original, and Income Receipt Book copy and a financial recording copy). The original receipt must be issued to the user (or a representative). One copy of the receipt remains in the Income Receipt Book as a permanent record of payment with the Treasurer. Another copy will be given to the Accountant for the purpose of recording the income.

INCOME RECEIPT	
Receipt Number	Number:
Received From:	
Amount of:	
Payment for:	
Date:	
Received by:	
(Signature)	

EXPENSE RECEIPT
Receipt Number
Paid To:
Amount of:
Payment for:
Reviewed by Manager:
Date:
Approved:
Date:
(Chairman's Signature)
Paid by:
Date:
Received by:
Date:
(Signature)

After the receipt is delivered, the cash should be deposited into a safe or bank. The Accountant utilizes the financial recording copy of the receipt to process payment, as follows:

- Record payment into the daily Cash Book in the income column
- Record service fee payment into Payment Book
- Attach the copy of receipt to the daily Cash Book
- At the end of each business day, total the daily Cash Book and record the income by category in the Daily Income and Expense Book

Sample copies of the Cash Book and Daily Income and Expense Book are included below. Receiving and recording in-kind products and labor follows an identical

the receipt is used to track and record the expense or withdrawal. When the Treasurer issues a withdrawal receipt and cash, an expense receipt for the purchase must be received. Any unused cash will be re-deposited in the cash account.

From the financial recording copy of the receipt, the Accountant then enters the expense payment (as a negative number) into the Cash Book, enters the expense payment into the Expense Summary Book, and files the receipt with it.

Bank Book Procedures

Bank transactions should be recorded in a Bank Book. The Bank Book is managed in a manner similar to the Cash Book, with the exception that the column for receipt/invoice numbers should be changed to invoice numbers. Cash withdrawals from the bank should be entered as expenditure in the Bank Book and income in the Cash Book (the master accounting record of all cash and in-kind income and expenses of the WUA, presented in cash equivalents). Deposits into the bank account are entered as expenditure in the Cash Book and income in the Bank Book.

The Bank Book (not the actual bank account) must be closed and opened on a monthly basis, as follows:

- During closure of the Bank Book, income and expenditure columns are summed up. The difference between the sums is the bank balance.
- The balance is entered into the expenditure column to balance the account. The income total should equal the total of expenditure, plus the balance of the bank account.
- The ending bank balance is carried forward to the following page of the Cash Book as the first entry.

The Accountant should visit the bank each month in order to determine the bank balance. The bank balance calculated in the Bank Book should match the balance indicated in the monthly statement provided by the bank. Any discrepancy between these two amounts must be explained (possibilities include mathematical error, bank charges, or interest). Bank charges and interest should be entered into the books as expenditures and income, respectively.

Monthly and Annual Reporting

At the end of each month, the Accountant should close and balance all accounts and prepare monthly financial statements and reports for the General Manager and Management Board. The Accountant enters income and expense data into the Monthly Financial Statement, which shows the beginning balance, income, expenses, ending balance, and inventory of cash with the treasurer. All summaries shall be presented to the General Manager and Management Board for review and approval.

After the end of the financial year, the Accountant enters the monthly income and expense data into the Annual Income and Expense Statement and calculates a Balance Sheet. These should be suitable for independent auditor.

An Annual In-Kind Net (Income & Expense) and Inventory Summary should also be prepared to account for farm products and assets of the WUA, respectively. The accounting of assets must consider their depreciation in value, owing to age and

repeated use. The inventory list should include a description of the assets, serial number, date of purchase, cost, location of assets, and any pertinent information. As new items are purchased, they should be added to the inventory list. When items are lost, destroyed, sold, or replaced, the inventory list should be updated.

The Accountant presents the summaries to the General Manager for his/her review and approval. The General Manager then submits the summaries to the Management Board for its review and approval. The Management Board in turn presents the summaries to the General Assembly. The Accountant furnishes them to auditors.

Audit

The purpose of a financial audit is to assure that income, expenses, and assets have been properly recorded, money paid appropriately, the Irrigation Service Fee received, and that embezzlement has not occurred. The audit also helps to verify the financial condition of the WUA, to help maintain the economic viability and continued existence of a WUA, and to establish and maintain the confidence of its members.

The Association may audit its financial activities either by an Internal Audit Committee or by an External Independent Auditor. The auditors inspect and review financial books and documents, as well as the inventory of the Association's assets. The Treasurer and Accountant shall provide assistance to the auditors during the audit and make all records and accounts available for examination. Auditors divide the number of financial records to be reviewed among themselves. For WUAs that serve few water users, all of the financial records should be reviewed and examined. For WUAs that serve many water users, the auditors determine the number of water user accounts to be reviewed and select a representative sample of records for auditing purposes.

The audit should focus upon specific areas of the financial management of the WUA. First, auditors should review the budget in detail in order to obtain a basis for judging whether or not the Irrigation Service Fee establishment and collection is adequate to sustain the WUA and to maintain the irrigation and drainage systems for future use. The audit should then focus upon the following areas of the WUAs financial records:

- Vouchers (available records);
- Accounts (correct posting);
- Inventory audits (cash in hand, in bank, balances, verification of assets); and
- Special tests (balance sheet, expenditures/earnings versus budget, interest received).

A sample of questions to be posed is listed below.

Income:

- Were the files of water service contracts complete?
- Was a receipt issued for all income?
- Was the Irrigation Service Fee calculated correctly in the water service contract?
- Was all income properly recorded in the Payment Book and the other income books?

- Was proper in-kind farm product loss and price applied to payments?
- Was the proper labor rate applied and was labor time accounted for?
- Was all previous debt in Payment Book carried forward to the current year?

The audit should also track Irrigation Service Fee payments both in cash and in-kind through the accounting records.

Expenses:

- Were receipts issued for all expenses?
- Were the WUA employees paid correctly?
- Were all expenses listed in the Monthly Expense Summary?
- Were the expenses correctly categorized?

Summary Accounting Statements:

- Were the accounts balanced on a monthly basis?
- Did the entries in the Monthly Financial Statement match the totals from the other books?
- Were beginning balances in the Monthly Financial Statement the same as the ending balances from the previous month?
- Were the entries from the Monthly Financial Statement correct?
- Are the totals in the Annual Income and Expense Summary correct?
- Was proper data entered into the Annual In-Kind Net and Inventory Statement?
- Are totals in the Annual In-Kind Net and Inventory Statement correct?
- Does the Balance Sheet truly represent the Assets, Liabilities, and Equity of the WUA?
- Are the entries in the Income and Expense Statement correct?
- Were new items acquired added to assets in the inventory list?
- Were sold /lost/destroyed items removed from assets in the inventory list?
- Does it appear that the assets are being used appropriately?

After the auditors have completed their auditing forms, they will meet and share their findings with each other. They will then prepare the Audit Report for the General Assembly based on their individual findings. If there is a disagreement concerning the findings and recommendations reported that cannot be resolved, the majority opinion will rule. If an auditor disagrees with the findings and/or recommendations in the Audit Report, that member may prepare a Minority Audit Report. The Minority Audit Report should state the areas of disagreement and reasons for the disagreement. Both the Audit Report and the Minority Audit Report are to be signed by those auditors who are in agreement. Both reports are to be submitted to the General Assembly for its review and consideration. If the auditor finds evidence of financial malpractice or that the Association has not been operating in accordance with national law, the Management Board shall call an extraordinary meeting of the Assembly to discuss remedial measures.

OPERATIONS AND MAINTENANCE

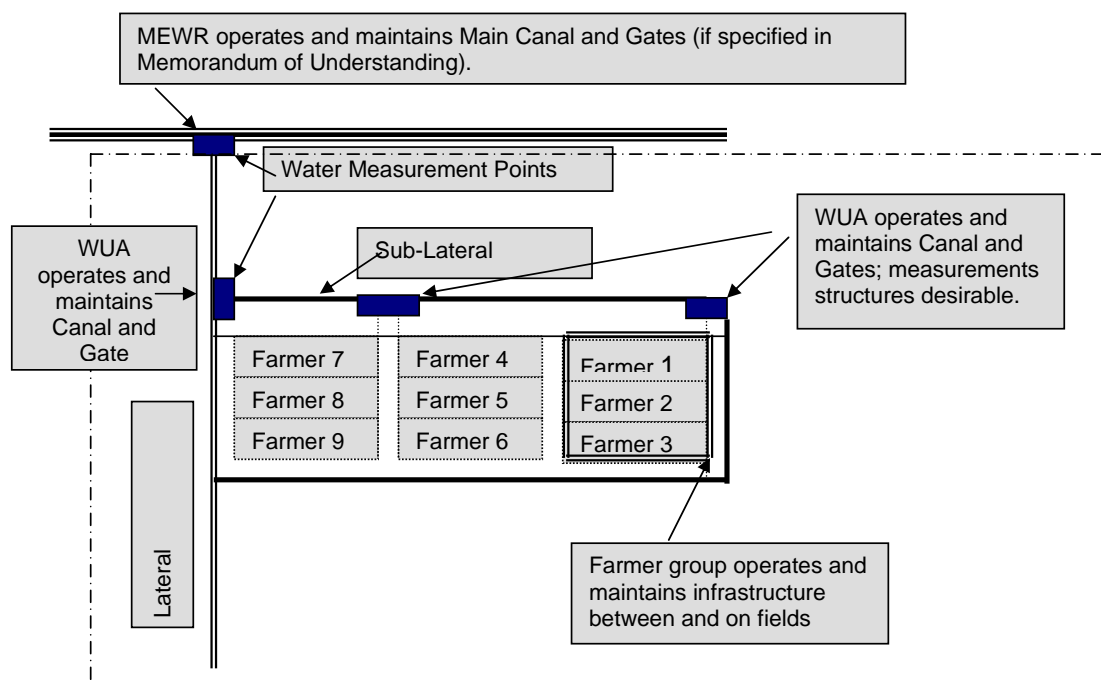
Sound operations and maintenance (O&M) is necessary to accomplish two important technical objectives of a WUA. First, the operation of an irrigation system must be implemented so that all water users, regardless of their location within an irrigation

system, receive a fair and equitable water allocation as is their right, as needed within the confines of a water distribution plan relative to seasonal and supply variations. Second, the infrastructure and equipment should be maintained at, or returned to or as near to the as-built condition, so that irrigation water can be delivered in a fair and equitable manner. The objective of this chapter is to provide a reference for the Management Board and the Executive Committee that will help them fulfill these objectives.

Responsibilities

O&M responsibilities of the WUA and the Government are specified in the Memorandum of Understanding. In some Government-built systems, O&M of some intakes, aqueducts, and control gates presently under the formal supervision of the provincial office of MEWR will pass to WUAs following their establishment. Where the entire system within the service area of the WUA was built using the labor and funds of local communities, the O&M responsibilities of the WUA will largely match those of the existing local institutions. Typically, WUAs will be responsible for O&M at the lateral and sub-lateral levels, as shown in Figure__.

Figure __: Roles and Responsibilities in Operations and Maintenance



Organization of Staff

The appointment of sufficient staff numbers, particularly the number of mirabs and line staff below them, is critical for efficient O&M. Numbers depend upon available finances, the number of water users, the total kilometers of irrigation canals and drains, and the total number of gates. Table __ below presents a staff requirement for

a newly formed WUA until financial capacity permits the employment of a full compliment of staff.

Table __: Minimum Staff Requirements

Management Board Chairman	Elected by the Management Board from nominations from the members of the Management Board – unpaid position
General Manager	Selected by the Management Board – responsible for overall staff management
Accountant	Selected by the Management Board
O&M Engineer (Senior Hydro-Technician)	Selected by the Management Board
Mirabs and other Field Hydro-Technicians	At lateral level; selected by the General Manager; at sub-lateral level, elected by communities
Saatchi/Watchman	Selected by the WUA Manager

The Internal Regulations specify ideal qualifications for these staff. The selection of all WUA staff positions must be ratified by the General Assembly.

[Introduce specific staff recommendations for individual project areas]

Facilities and Equipment

Owing to lack of funds, the facilities and equipment of most WUAs in Afghanistan will be minimal during the initial years after formation. For some systems, heavy equipment such as a bulldozers and draglines is not required. However, in other areas with engineered infrastructure, these will be necessary. WUAs should account for these needs and devote adequate revenues for the eventual acquisition of an appropriate set of facilities and equipment. Initial equipment requirements of WUAs may include the following:

- Transportation for line staff
- Topographic survey equipment
- Small standard boom hydraulic excavator
- Backhoe with rear bucket and front blade (either as a complete unit or as equipment for attachment to a suitable sized tractor)
- Tractor and trailer
- Grader (road maintenance or field leveling)
- Small petrol or diesel concrete mixer
- Small soil/earth compactor or tamper
- Water pumps (for maintenance of canals and drains)
- Motorized brush cutters
- Spades, buckets, wheelbarrows, sandbags, scythes, grass cutters

For proper upkeep of this equipment, WUAs will also need, a machinery workshop, a warehouse for storage of materials and small equipment, and a machinery yard for WUA vehicles and O&M machinery.

Administration

Sound management of the irrigation and drainage system requires effective administration by the O&M Engineer (under the guidance of the General Manager). Documentation required for administration and its handling by the Executive Committee is covered in Chapter 4.

An important aspect of O&M administration is reporting by the Executive Committee. For purposes of decision-making, the Management Board will require monthly reports from the Executive Committee and the General Assembly will need semi-annual reports from the Management Board that detail the financial, administrative, and the operation and maintenance activities of the WUA. The General Manager, with the aid of the O&M Engineer and Accountant, prepares and presents these reports.

The Annual Report (described in Chapter IV) is based upon the main planning instruments of the WUA, which are the Annual Budget, the Annual Maintenance Plan, and the Annual Operations Plan. The content of the Annual Maintenance Plan is usually inserted into the Annual Operation Plan. Reports based upon O&M plans should contain the following:

- Organization and Management: introduction, functions and objectives of WUA, staff requirements, staff responsibilities, training needs for staff and members, facilities and equipment, communications, sufficiency of the annual budget for O&M and the Irrigation Service Fee;
- Operations: method and objectives of operation, Cropping Plan, Water Distribution Plan, implementation measures, and operation records;
- Maintenance: overview and objectives, inspections, priorities, activities, implementation measures, and maintenance records; and
- Performance Monitoring: proposed indicators, proposed performance objectives, monitoring plan, and monitoring records.

Maintenance

Planning

Due to routine use and emergencies such as floods, irrigation and drainage systems require constant maintenance. For this purpose, the WUA should prepare a plan of survey for the maintenance of irrigation system.

The planning process begins with regular inspection conducted by the mirabs and other line staff. They should record required repairs in field notebooks and later in a Maintenance Register. The latter contains sections for each O&M area, as well as sub-sections for each distribution canal and drain. Each item entered in the Maintenance Register must be prioritized. The O&M Engineer regularly inspects the register, conducts monthly site visits of the system and reported locations, and then decides the priority. The repair is then allocated to either routine tasks (fitted into the plan as permitted), periodic tasks (deferred until system shutdown) or declares the repair as emergency maintenance and planned for an immediate task allocation.

At the end of the irrigation season the O&M Engineer and General Manager conduct a formal field inspection and check all recorded data in the Maintenance Register. The O&M Engineer will re-assess his priority selection of works and make the necessary

adjustments, based upon the annual inspection. Field topographic surveys and the preparation of an outline design for the proposed works are desirable to achieve an accurate volume of works and cost estimates. Based upon the Maintenance Register entries, the O&M Engineer and General Manager comprise the Maintenance Plan. An allowance should be made in each year's budget for emergency maintenance works.

Maintenance work should be closely and constantly monitored in order that it is of satisfactory quality and completed on time according to the prepared plan. After completion, maintenance work should be entered into the final survey report.

Implementation

Prior to the irrigation season, the O&M Engineer requests supplies of grease, oil, fuel, sand, gravel, cement, tool replacement, spades, shovels, grass cutters, etc. A written request for maintenance materials and tools is submitted to the General Manager for his approval and then is forwarded on to the Accountant for purchase and filing.

Overall direction of routine maintenance is the responsibility of the O&M Engineer. Mirabs provide on-site locality supervision for maintenance teams (work group/laborers). WUA members will provide labor as part of the hashar (which is part of the Irrigation Service Fee payment).

For more major periodic maintenance works, it may be more cost effective for a WUA to contract the work by tender. The General Manager and the O&M Engineer prepare bidding documents with a standard contract package for the tendering of contracts. The standard contract should include the following:

- Quality control and performance testing criteria;
- A guarantee period of one year;
- A two-step certification process (one at the date of completion of construction, and the other at one year after the date of completion of construction);
- A penalty for over-time completion at a rate of 0.005% of the contract price per day exceeding the agreed date of completion; and
- Clauses for the settlement of disputes.

Protection of Intakes, Gates, Spillways, and Turnouts

Floods and seasonal maximum water flows often damage intakes, gates, spillways, and turnouts. Afterwards water flow will move in the bed of river from the canal intake to the other side. Maintenance is required to divert the flow back to the canal side.

It may be best to contract with a construction company for the repair of large intake gates, spillways, control gates, and turnouts destroyed by flood, rising of water or other events. Maintenance of these gates requires steel and iron beams, plates, cables, as well as a welding torch.

The upper and lower sections of these structures should be protected with stone, concrete, blocks, gabions, or other protection materials.

Cleaning Canals and Drains

Canals and drains are cleaned annually during the winter season (the first of Jade to tenth of Dalwa). Depending upon the infrastructure, it may be possible to manually

clean main canals by means of hashar. Otherwise, heavy machinery (dragline) services may be required, which in turn may entail hiring an outside contractor.

Operations

Planning

The first step in operations planning is to have farmers submit a proposed cropping plan, which should contain crops to be planted and the number of jiribs per crop, the starting or planting dates of the various crops; and the amount of water required, in particular the “wetting-up” requirements. The O&M Engineer calculates the water required for each crop and each irrigation and thus determine the irrigation requirement for each sub-lateral, lateral, and for the entire WUA. Calculation of the irrigation requirement should take into account leaching requirements and conveyance efficiency, as well as the needs of the non-agricultural users who obtain water from the irrigation system.

After the WUA estimates its irrigation requirement, general meetings should be convened between the local MEWR officers, the Management Board, the General Manager and O&M Engineer of the Executive Committee, and General Assembly representatives. These meetings should discuss the amount of quantity of water in the reservoir, the flow of water in the river, and the water that will be available to the WUA.

The O&M Engineer will compare the calculated irrigation requirement with the allowable extraction limit from the water source. If the calculated volume is greater, the Management Board, with the assistance of the O&M Engineer, should review and revise the proposed cropping plan to ensure that the seasonal and/or annual irrigation water requirements are within the allowable extraction limit and match the expected water availability. The final calculated irrigation requirement should be provided to the local MEWR office.

The O&M Engineer then creates and finalizes the Annual Operation Plan. It will show the areas of the various crops to be grown; the irrigation period; the irrigation requirements or all units for each irrigation period or schedule; and the total irrigation requirement for the WUA command area per irrigation period, per season and annually.

[Provide a simple method of calculation and adapt and provide sample forms]

Irrigation requirements are vary considerably by season in most areas. In the beginning of spring and end of autumn and winter the weather is moist and demand for irrigation water is low. In the month of Jadi and first ten days of Dalwa the flow of water is usually cut in canals to permit periodic maintenance works. In the end of spring and summer and in the beginning of autumn the weather is hot and demand for water to irrigate field crops is high.

Implementation

Main Canal to Laterals

Distribution of water from the main canal to the laterals is the responsibility of the line staff of the Executive Committee, which measures water by CFS.

Distribution to laterals that do not have any sub lateral is by hours. Landowners use the water jointly, with one metered gate on the lateral and one metered gate to the farm ditches. During irrigation the land owners according to their turn open the farm ditch gate, but closed the lateral gate. After irrigation they close the farm ditch gate and open the lateral gate.

Irrigation Water Turning at Lateral and Sub- Lateral

Irrigation water turning is very important especially when it comes to the location of land as to whether it is located higher or lower from the surface of ditches and the quantity of water to be delivered as well as the time required for delivery during the irrigation water turning.

Also, irrigation water turning varies according to land location whether the land is leveled or not if the land is leveled irrigation water turning may required 12 days if the land is not leveled irrigation water turning for the same quantity of water will required about 15- 20 days.

The explanation is about the system of water right in Nad-i-Ali district Helmand Province.

In this system water right according to hour is impossible because the flow of water is fast and the quantity of water is too much.

An example:

The number 0+300 lateral in Nad-i-Ali the water running is lower than the surface of land. The distribution of the water right in such land which is located higher than the irrigation ditch has to be done as follows.

- The flow of water should be directed through lateral.
- In a lateral which has many sub-laterals the transfer of water from lateral through many sub-laterals takes time because the flow of water between sub-lateral is slow.
- More or less agricultural land under a lateral makes no difference with the irrigation turning.
- Irrigation turning for the land which is located higher or lower than the surface of ditch is the same if turning is during day or night.

Measurement of Water Flow

Water is measured from the river to the main canal in cubic meters per second, from the main canal to the lateral in cubic feet per second, and below this level in days (rotations). In engineered systems with calibrated gates and flumes, level markers are utilized for measurement. Velocity of water is measured by means of repeatedly floating an apple between two points and recording the time taken. Current meters

are not utilized for this purpose. [Include more detailed procedures for traditional and modern means of measurement.]

Current meters would improve the measurement of flow at lateral and sub-lateral levels. A measurement table should be prepared for the flow of water in lateral and sub lateral under command area of canal. Training of line staff in these methods would permit them to measure water more accurately by volume.

PERFORMANCE MONITORING

Performance monitoring and evaluation is a key instrument utilized by the membership and Management Board to obtain an indication of the quality of the work of the WUA and for evaluating the personnel of the Executive Committee. It also provides a means to reassess objectives and to formulate improvements when a weak performance is evident.

Roles and Responsibilities

The Executive Committee proposes a set of performance indicators and monitoring and evaluation procedures for review, revision, and approval by the Management Board and General Assembly. Recorded results of each indicator should be compared to the original design targets or in relation to those targets, which may be revised periodically.

The staff of the Executive Committee conducts monitoring at regular intervals. WUAs should undertake direct responsibility for the carrying out of the monitoring process or for as much as is possible that is within their technical and management capabilities. Indicators of environmental impacts may require measurements and laboratory testing hired from outside agencies. In some instances, Government agencies may be available for monitoring beyond the capabilities of WUAs, or else performance monitoring will be linked with a Government monitoring and evaluation system.

The Executive Committee evaluates on a seasonal or annual basis the trends (and their causes) that are evident in performance indicators. Findings should be discussed regularly with the Management Board.

The results of performance monitoring should be shared with the members of the WUA. The Management Board should present to the General Assembly details concerning the performance of the irrigation and drainage system (to be prepared by the Operations and Maintenance Engineer), as well as the performance of the Executive Committee (to be prepared by the General Manager). The Internal Audit Committee (or external auditor) will prepare on an annual basis a separate report concerning the financial management of the WUA. The General Assembly members should then discuss the results with members of their sub-lateral and then provide feedback to the Management Board and Executive Committee concerning their needs and recommendations. Based upon this feedback, suitable remedial actions will need to be taken. This ensures that the results of the performance monitoring become an important management tool.

On the basis of the findings of performance monitoring, it is possible for the Management Board, Executive Committee, General Assembly, and members to obtain an understanding of the overall performance of the WUA. However, there is a need to proceed further than a mere understanding. The WUA should evaluate the findings of performance monitoring in order to accomplish the following:

- Identify weaknesses in the performance;
- Explain these weaknesses to the Management Board, general Assembly, and sub-lateral membership;
- Set realistic objectives for the next season;
- Take appropriate measures to avoid making the mistakes that led to the appearance of the weaknesses; and
- Set long term objectives and policies for the development of the WUA.

The annual and long-term objectives should be included into the Operation Plan, Maintenance Plan, and Annual Report to the General Assembly (cross reference). The findings, assessment, and the appropriate measures should be reported and discussed with the Management Board on a quarterly or semi-annual basis, as well as presented to the General Assembly every year.

Performance Indicators

The Executive Committee should consider the specific conditions of the WUAs service area before proposing performance indicators to the Management Board and General Assembly. It is useful to classify indicators within various components. A “standard” set of indicator components might include irrigation management, maintenance, financial management, agriculture, and the environment. Indicators that might be included within these components are listed below.

Irrigation Management

- **Irrigation Delivery Ratio:** compares the actual and planned flows on a monthly and seasonal basis; shows whether the water distribution system is performing as designed, and whether any parts of the system are suffering from water shortages; calculated by dividing the volume given (including rainfall) by the volume planned, for each tertiary canal.
- **Water Use Efficiency:** compares the actual delivery to the farmers (on the basis of receipts for water delivery) as a percentage of the extraction from the main canal (on the basis of the measurements taken at the head gate)
- **Timeliness of Delivery:** indication of the quality of the service of the WUA can be obtained by calculating the deviation from the objective for any water delivery; difference between the date on which a farmer requests water and the date when the farmer receives the water.
- **Cumulative Water Use:** compares total actual and planned water use are intervals throughout the season, using the Annual Water Plan and the actual measured discharges into the canals.

Maintenance

Structure Condition Ratio: At the end of the season, at the time of the annual maintenance inspection, the condition of each part (canals and flumes, drains and structures) of the irrigation and drainage system is assessed as being in good condition, having minor defects, or as having major defects. The ratio is the number

of parts of the system in good condition divided by the total number of parts of the system. The ratio should be close to 1.00 each time.

Financial Management

- Collection of Fees and Charges: the amount paid as a percentage of the amount due; a high level of water charge collection is essential for the financial viability and sustainability of the WUA. The Accountant also prepares a report on the amount paid as compared to the total extraction from the main canal. This is a measure for the amount of water that is unaccounted for.
- Payment In Cash Ratio: compares actual payment in kind with payment received in cash.
- As the farmers and WUA develop their activities, payment in-kind should be replaced by payment in cash.
- Amount of Interest Paid
- Penalties Paid: due to late payment of taxes, and telephone and electricity bills, etc.

Agriculture

- Cropped Areas and Intensity, by Crop: proceeds on the basis of cropping plan submitted by the farmers; should be verified at the end of the season.
- Crop Yields: calculated based on a method of experimental crop cutting (harvesting) of sample areas; can be used to assess whether different parts of the irrigation area are more productive than others.
- Farmgate Prices
- Farm Income Structure

Caution must be exercised in analyzing agricultural indicators, owing to the multitude of factors that influence cropped areas and intensity and yields per hectare. These include input supply, weather, skill of the farmers, farmgate prices, production quotas, and the like.

Environment

- Soil Salinity: collect soil samples from suspected problem areas and laboratory test for levels of salinity, physical structure and chemical structure; identifies leaching and other amelioration needs.
- Groundwater Table Depths: indicates the effectiveness of drainage; should be monitored on a quarterly basis.
- Water Salinity: should be linked into the soil salinity results to indicate the effectiveness of the field drain and natural drainage system.
- Nutrients and Pesticides in the Surface and Ground Water: indicates pollution levels of fertilizers and pesticides and whether or not their application rates need to be modified.

APPENDIX V

REPORT OF THE RESEARCH ON CURRENT IRRIGATORS' SOCIAL STRUCTURE IN HELMAND

JANUARY 2005

TABLE OF CONTENTS

1. INTRODUCTION.....	14
2. DESCRIPTION OF DATA.....	15
1. Categories of Interviewees.....	15
2. Areas of Survey.....	15
3. FINDINGS	16
1. Method of Distribution of Water	16
2. Prevention of Illegal Use and Wastage of Water	17
3. Role of Local Administration and Ulema	17
4. Resolution of Conflict	18
5. Election of Mirab	19
6. Qualification of Mirab	19
7. Mirab's Wages	20
8. Mirab's Council	20
9. Major Decisions on Irrigation Matters.....	21
10. Maintenance of Irrigation Installations	21
11. Adequacy of Law and Regulation	23
12. Changes in Mirab System	24

INTRODUCTION

A survey was conducted on the current irrigators' social organization in Helmand by a team of researchers of Institution Building and Advisory Services of Development Alternatives Inc. from four to nineteen of January 2005. The research team was comprised of two agriculturists and one sociologist. The agriculturist is a well experienced researcher in community based project especially in rural development. The other agriculturist has served for very long time in Directorate of Irrigation in Helmand and is equipped with impressive knowledge on irrigation system there and the advantage of the sociologist is that he is from the same locality who knows very well the social structure and irrigators' interrelationship over there.

The objective of the research was to collect necessary information on method of distribution of water, method of selection of Mirabs, their payment and term of service, mechanism of conflict resolution and major decisions taken on irrigation and maintenance of irrigation installations.

The data was collected from reliable sources such as the Directorate of Irrigations, Nigarans (supervisors), Mirabs (water masters), landowners, members of shura and other local people. The data was collected through questionnaires from 62 interviewees in Nad Ali, Marja and Lashkargah.

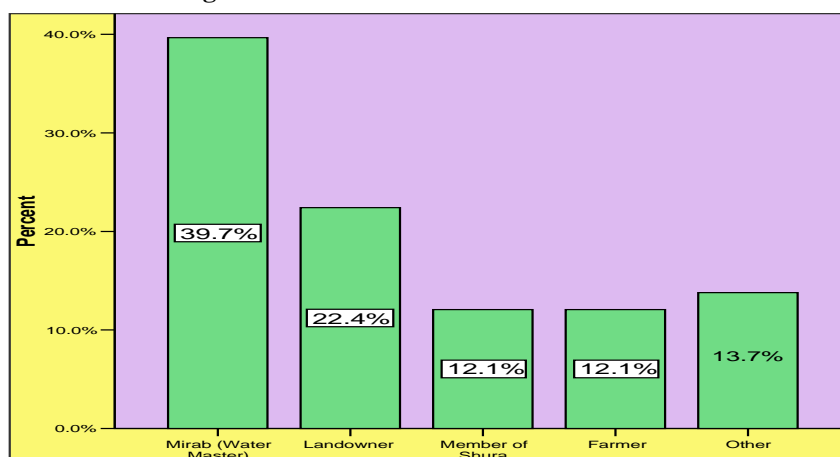
For the analysis, the data was categorized and each category is given a code. Each answer is coded and then codes are entered in computer. The data is then analyzed and here a description of the data is presented first which is followed by the findings.

DESCRIPTION OF DATA

1. Categories of Interviewees

The chart below shows categories of interviewees in this survey. Mirabs constitute the highest number of interviewees (39.7%) which is followed by landowners (22%), shura members (12.1%) and farmer (10.3%).

Chart No. 1: Categories of Interviewees

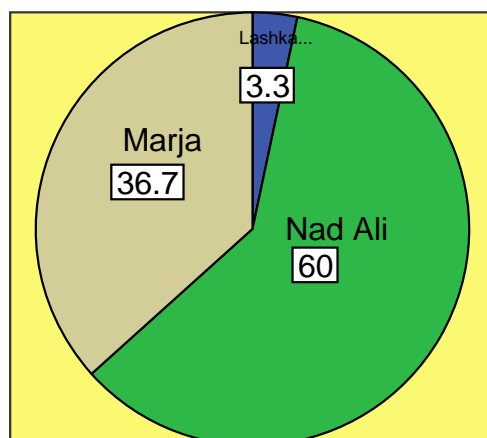


Other interviewees are staff from Directorate of Hydrology (3.4%), nigarans from Directorate of Irrigation (3.4%), teachers (1.7%), Loya Jirga delegates (1.7%) and local people (1.7%).

2. Areas of Survey

The survey was conducted in Nad Ali, Marja districts and Lashkargah, the provincial center of Helmand. The chart below shows that 60 per cent of the interviewees come from Nad Ali while 36.7 per cent from Marja and 3.3 per cent from center of Lashkargah.

Chart No. 2: Areas of



Survey

Interviewees from center of Lashkargah are staff from Helmand and Arghandab Valley Authority (Riyasat Umumi Wadi Helmand) and Directorate of Irrigation and Water Resources (Riyasat Abyari wa Manabi Ab)

The interviewees in Nad Ali District come from Group Shah, Naqil Abad, Sheen Kili, Zarghoon kili, Gawar, Loy Bagh, Now Abad, Washiryan, Noorzai Kili, Alokozai Kili, Maalim Nawroz Kili, Hazaragan and Bluchan Kili, Loy-e Manda, Cha-e Mirza, Khoshhal Kili, Duazda Khana, 31 Gharbee, Lashak.

Interviewees in Marja district come from Tobi Marja, Qari Sadai, Sisitani, Block A-3, Block B-3, Block 7-E, Block C, Block B-1, Block 5-C, Block 5-E, Block 6-E, Block 6-F, Block 7-A, Block 7-C, Block 7-D, Block 7-F, Block 8-B, , Block 9-B, Block 10-A.

FINDINGS

1. Method of Distribution of Water

About 19.7 per cent of the interviewees have said that distribution of water in general streams (turn-outs) of government irrigation installations is done by Directorate of Irrigation (Amiriyat Abyari). Distribution of water at lateral and sub-lateral level is done on the basis of cubic feet per second and measured in inch as stated by 1.6 per cent and 13.1 per cent of the interviewees respectively. Then, water is distributed by mirabs on jirib basis per hour that is answered by about 50 per cent of the interviewees. However, no unanimity is seen with regard to hour and jirib basis for some interviewees (1.6%) said that ten hours is allocated for 30 jiribs and thus one hour is allocated for three jiribs. On the other hand, some other interviewees said that two hours is allocated for eight jiribs and five hours for one form (فورمه) , i.e., 30 jirib. The reason for this variety of answers can be explained by reference to level of land. If the level of land is higher it takes more time as water slows slowly and if the level of land is lower, it takes less time as water flows faster.

A small number of interviewees have a negative view on government irrigation system. They (1.6%) said that the government irrigation system is collapsed because drops are broken and water is not controlled. Yet, a number of interviewees (14 %) have not answered at all or have not given specific answer about distribution of water.

With regard to the question as to whether the right to water changes during the two seasons or not, interviewees have given two categories of answers. About 35 per cent of them have said that the right to water does not change because water is distributed on local tradition and practices that is on the basis of jirib per hour. About 28 per cent of them mostly from Marja district said that right to water change when water there is shortage of water. About 5 per cent of them provided some explanation on water distribution that in spring and summer water is needed for irrigation purposes after 8 days while in autumn after 15 days. About 38 per cent of the interviewees either have not answered the question or their answers are not specific to the point.

2. Prevention of Illegal Use and Wastage of Water

With regard to the question as how wastage of water and illegal use of water can be prevented, interviewees have provided a variety of answers that can be categorized as follows:

A. Repair of the Irrigation Installations

Majority of the interviewees stressed the need for repair of the irrigation installations. They emphasized building culverts, repair of meter gates, repair of main gate, putting up locks at the gate, repair of reservoirs, desilting and maintenance of streams and canals.

B. Role of Nigarans and Mirabs

A number of interviewees emphasized on the role of Nigarans and Mirabs in preventing of water wastage. They stated that if Nigarans and Mirabs have good supervision over drops and meter gates so that they are controlled and closed properly water wastage can be prevented.

C. Effective Distribution of Water

A small number of respondents held the view that if water is distributed in turn it will not be wasted.

D. Collective Effort

Some interviewees wrote that collective efforts should be taken by Nigarans, Mirabs, watchmen, landowners and farmer in prevention of water wastage. On the other hand, some said such effort is already being taken in Boghra canal.

E. Effects of Rules and Regulation

Some of the interviewees acknowledged that having new rules and regulation can help reduction of water wastage. According to them there are some powerful people who use water at night illegally and there is no law to on the basis of which that such person can be questioned and punished. Therefore, new law is needed to regulate affairs related to irrigation such as cleaning of streams and canals on time and to provide punishment for those who use water illegally.

F. Removal of Irresponsible Persons

A few interviewees said that there are some irresponsible armed personnel in power and they should be removed and their power is to be given to the right person.

G. Establishment of Commission

Some interviewees proposed establishment of a commission with cooperation of Agricultural Department (Riyasat Ziraat) and Directorate of Irrigation (Amiriyat Abyari). It should be established at provincial level and should be responsible for control of Boghra canal main turn-outs and locks on weekly basis.

H. Removal of Illegal Locks and Water Pumps

Some interviewees said that illegal locks and water pumps to be removed and illegal turn-outs to be closed. Some others said that an Directorate of Irrigation to be established and should be equipped with transportation in order to prevent illegal use of water.

3. Role of Local Administration and Ulema

With regard to the question as to what role local administration and ulema can ply in prevention of wastage of water, interviewees emphasized very much on the role of ulema. The vast majority of them said that ulema can play a greater role in prevention of water. Their advice is very important and they should tell to the people that using other's water right, excessive use of water is not permissible in Islam. Some interviewees mentioned the role of district (wuluswali) authority and role of a local administration but there is a view that a committee to be established for each locality for assessment and prevention of water wastage.

4. Resolution of Conflict

Conflict related to water is resolved in variety of ways. Sometimes the conflict is resolved by Mirabs but most often it is resolved in council that is held either locally or at the Directorate of Irrigation.

5. Election of Mirab

All the interviewees said that mirabs are elected by landowners. Hence, government departments have no direct role in electing a person as mirab. However, a large number (36%) of the interviewees said that once a person is elected as mirab by landowners then Directorate of Irrigation is informed of his election and he is registered there as mirab. Then the Directorate of Irrigation is most often in contact with Mirabs through its supervisors in distribution of water and other matters related to water and irrigation installations.

Seventy seven per cent of the interviewees said that mirabs have no official position at government departments. However, they are recognized as representatives of landowners of a particular stream.

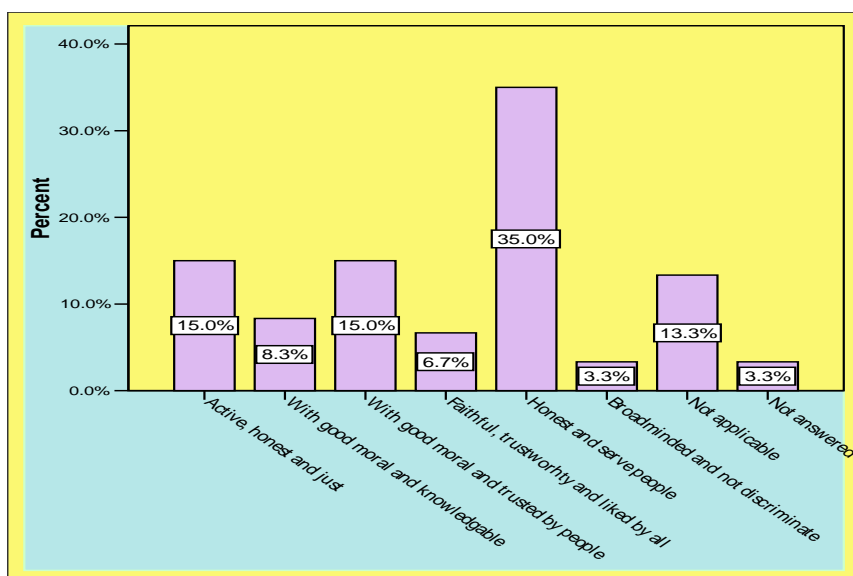
All interviewees said that a mirab is elected for one year and if he performs well he will be elected for second time and goes on and there is no limitation in his terms of service, that is, why there are persons who are mirab for many years.

It is also evident from the answers given by the interviewees that mirab is usually elected at the month of mizan.

6. Qualification of Mirab

The qualification of mirabs is explained in a variety of expression. A person can get the mandate of landowners as mirab only if he is active, honest, just, knowledgeable, trusted and liked by people who can serve best his people. If we look at the Chart below we realized that interviewees emphasize much honesty, service and acceptability by landowners.

Chart. No. 3: Opinions of Interviewees on Qualification of Mirab

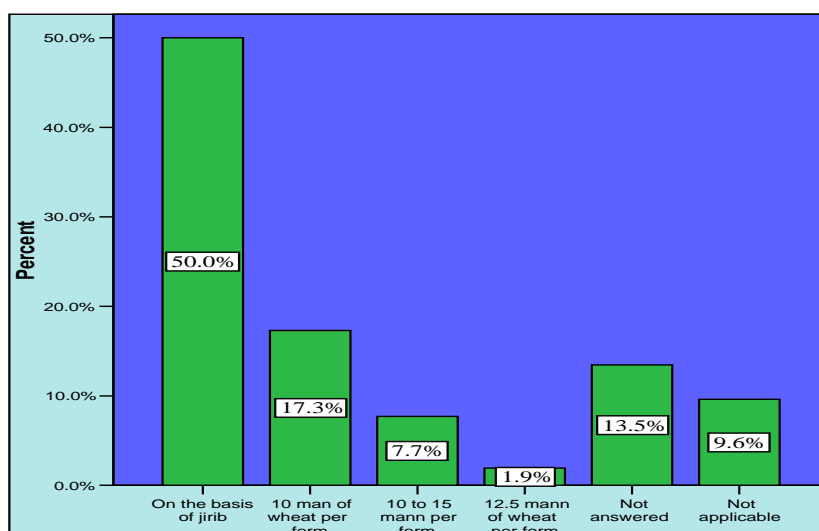


7. Mirab's Wages

Almost all interviewees stated that mirab's wages is paid by landowners. Almost half of the interviewees said that mirab's wage is paid in kind, i.e., wheat on the basis of jirib. However, no uniformity is seen in the amount of payment. Some interviewees said that mirab is paid 10 mann of wheat per form (فورمه), while others said 12.5 mann of wheat per form and even some other interviewees said mirab is paid between 10 to 15 mann of wheat per form. One mann is equivalent to three *charak* or four and half kilos.

It is evident from the ranges of answers provided by the interviewees that the amount of mirab's wages depends very much on the agreement between landowners and a mirab.

Chart No. 4: Opinions of Interviews on Wages of Mirab



8. Mirab's Council

The data shows that mirabs have a variety of councils. Sometimes, this council is held between mirabs of upstream and downstream. In some occasion, mirabs' council is held weekly which is participated by Supervisors of Directorate of Irrigation and elders from the locality. A number of interviewees said that mirabs have a weekly or bi-weekly or monthly gathering at Directorate of Irrigation (Amiriyat Abyari) for resolving the problems related to water.

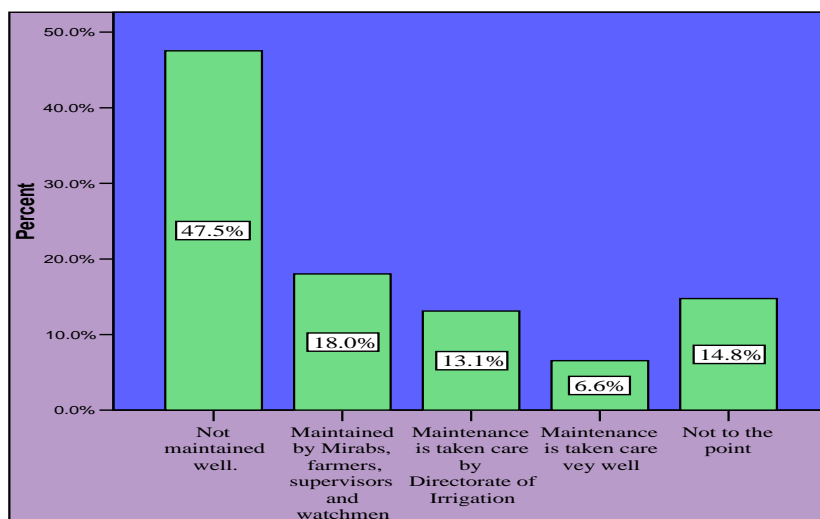
9. Major Decisions on Irrigation Matters

Many parties are involved on irrigation matters such as landowners, mirabs, farmers and Directorate of Irrigation. The chart below shows that decision is taken at various levels. Sometimes decision is taken by Mirabs on irrigation matters as discussed above while on bigger matters elders of the community also take part in decision making process. Sometimes, decision is taken by farmers, mirabs together with supervisors of Directorate of Irrigation. On another occasion, decision is taken by Directorate of Irrigation especially on matters related to the main canal and its supervisors and Mirabs take necessary steps for implementation of the decision. The data shows that normally decision is taken on majority basis.

10. Maintenance of Irrigation Installations

Interviewees have given variety of answers to the question as to whether currently irrigation installations are well maintained. The chart below shows that half of the interviewees said that currently irrigation installations are not maintained well. Eighteen per cent of the interviewees said mirabs, farmers, supervisors and watchmen collectively play role in maintenance of irrigation installations while 13 per cent of them said stated that maintenance is taken care by Directorate of Irrigation. A small number of them said that maintenance is taken very well without elaborating on it.

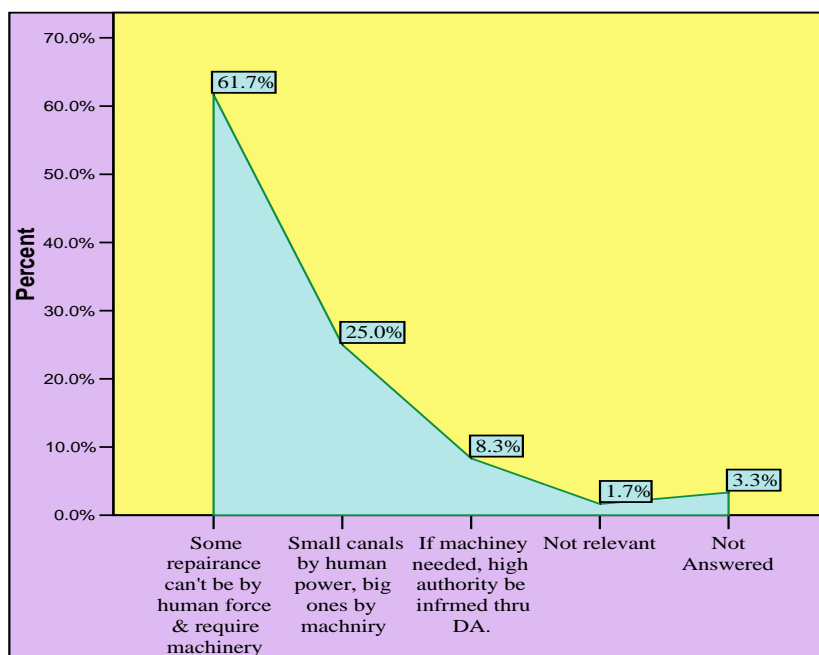
Chart No. 5: Opinions of Interviewees on Condition of Irrigation Installations



Two kinds of contribution from water users are mentioned, that is, in terms of finance and work. Thirty four per cent of the interviewees said that when there is need money is collected from farmers and landowners on jirib basis for maintenance of irrigation installations. Surprisingly, a small number of them (4.9%) mentioned the collective labor work (*ashar*) usually being undertaken by water users.

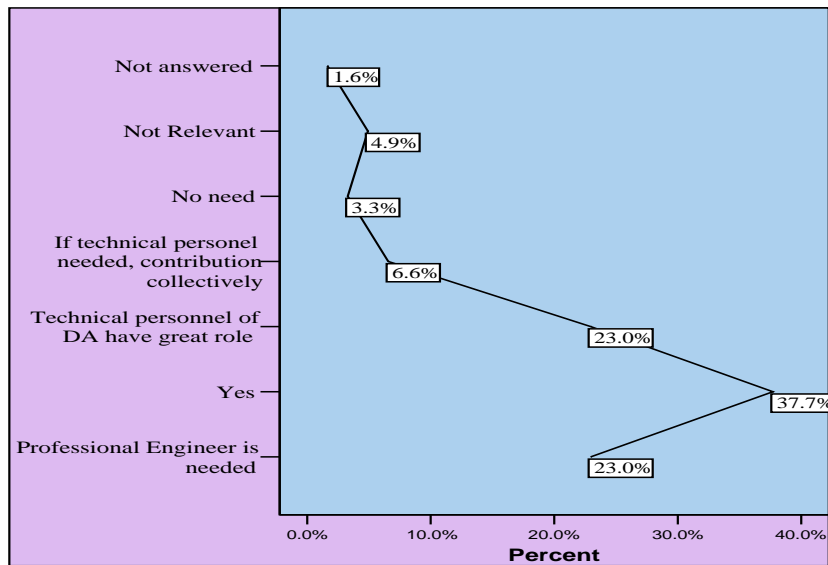
About sixty two per cent of the responses indicate that the some streams, drains, canals and drop structures that are destroyed during the past years can't be repaired by human power and their repair requires machinery. It also can be seen in the following chart that 25 per cent of the interviewees stated that small canals can be constructed and cleaned by human power while big ones require machinery.

Chart No. 6: Opinions of Interviewees on Maintenance of Irrigation Installations



The chart below shows that about 38 per cent of the interviewees stated that technical matters related to distribution of water and maintenance of irrigation infrastructure require technical person. Twenty three per cent of the interviewees mentioned that professional engineer is needed for repairing of a number of steering boxes of main gates and gates of the main canals. About seven per cent of them observed that technical personnel of Directorate of Irrigation can have great role.

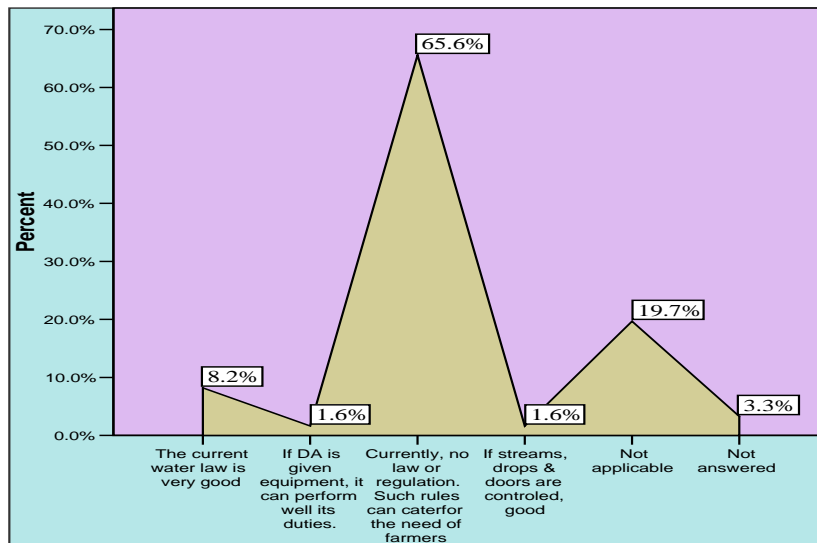
Chart No. 7: Views of Interviewees on the Need for Technician



12. Adequacy of Law and Regulation

It is surprising that the vast majority of the interviewees (65.6%) are not aware of the water law as they said that currently there is no law and if such is to be enacted in future it might fulfill the needs of water users. On the other hand, a small per centage (8.2%) of interviewees are satisfied with the current law as they maintained that the current law is very good but what is more important is its implementation.

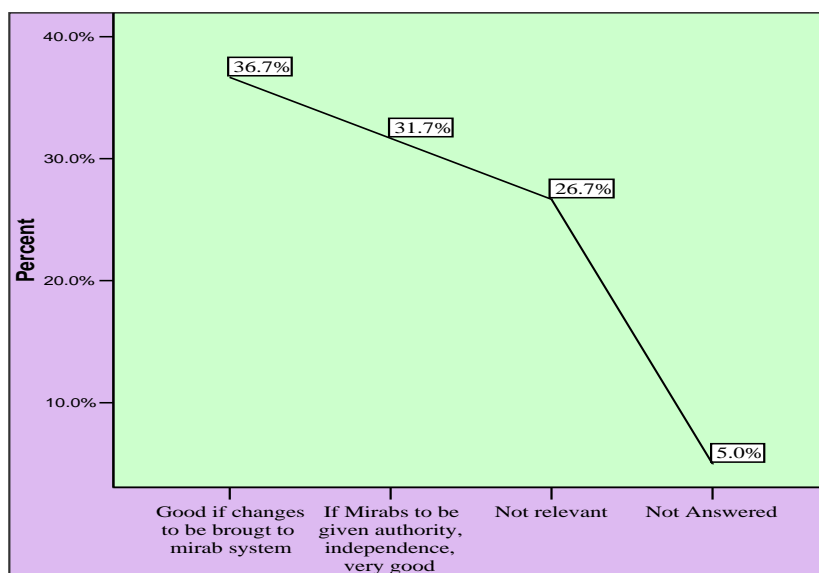
Chart No. 8: Views of Interviewees on Adequacy of Law and Regulation



13. Changes in Mirab System

About 37 per cent of the interviewees stated that it would be good if good changes were to be brought to mirab system. About thirty two per cent of them held the view that if a new system is to be established and mirabs are given more authority so that they are independent in distribution of water, it would be very good.

Chart No. 9: Views of Interviewees on Changes in Mirab System



APPENDIX VI

REPORT OF THE RESEARCH ON CURRENT IRRIGATORS' SOCIAL STRUCTURE IN HERAT

(Draft)

**Prepared by:
Institution Building and Advisory Service of Development Alternative Inc
&
RAMP**

January 2006

Table of Contents

1. Introduction
2. Description of Data
 - 2.1 Area of the Survey
 - 2.2 Categories of the Respondents
3. Findings
 - 3.1 Operation of Injil Canal
 - 3.2 Water Distributors
 - 3.2.1 Election
 - 3.2.2 Qualification
 - 3.2.3 Tenor of Responsibility
 - 3.2.4 Wages
 - 3.3 Conflict Resolution and Decision Making
 - 3.4 Maintenance and Rehabilitation of the Irrigation System
 - 3.5 Adequacy of Laws and Regulations
 - 3.6 Respondent's Views on Efficacy of Water Management
 - 3.7 Prevention of Unlawful Use and Wastage of Water

1. INTRODUCTION

A field study was conducted by DAI Institution Building and Advisory Services team in the month of December 2006. The study was aimed at gathering information on the following:

- Operation of Injil Canal;
- Election, qualification, tenure of responsibility and wages of water distributors
- Maintenance and rehabilitation of Injil Canal;
- Resolution of water related issues and disputes;
- Adequacy of laws and regulations;
- Prevention of unlawful use and wastage of water.

The information was collected through questionnaires distributed by field researchers to the participants. The respondents who participated in answering questions represent different strata of the society as can be seen below.

2. DESCRIPTION OF DATA

2.1 Area of the Survey

The survey was conducted among upstream, middle and downstream residents of Injil Canal. As it can be seen in the following chart, upstream and downstream residents of Injil canal are highly represented while representation of the middle stream is low.

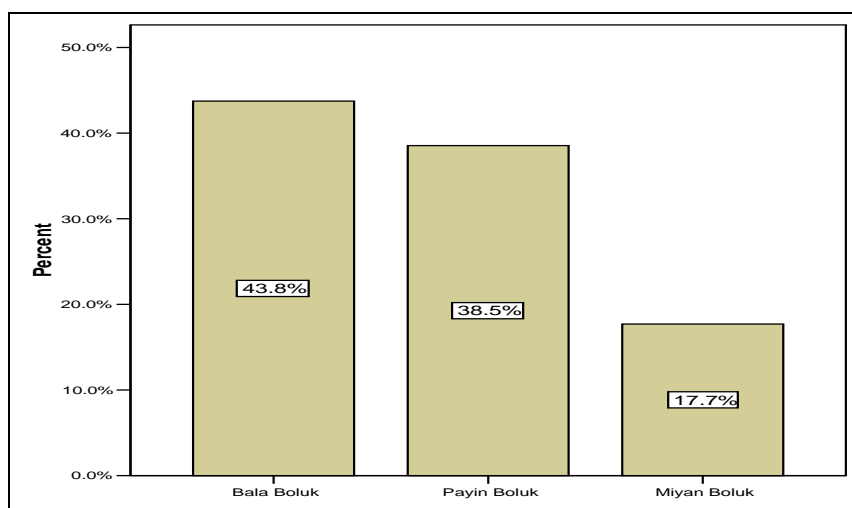


Figure 1: Area of the Survey

The main reason for low representation of the middle stream is small number of farmers and landowners. This is so when the area was developed into municipality a great number of agricultural lands were used for municipality and industrial purposes. As such, agricultural land area was reduced considerably. Thus, the respondents who are irrigators and participated in answering the questions are small in number.

2.2 Categories of the Respondents

As stated above, the vast majority of the respondents (61%) are farmers followed by Qaryadar (14 %). The rest of the respondents are members of Shura Council, Imam, Mirabs, teachers, students and doctors and other stakeholders.

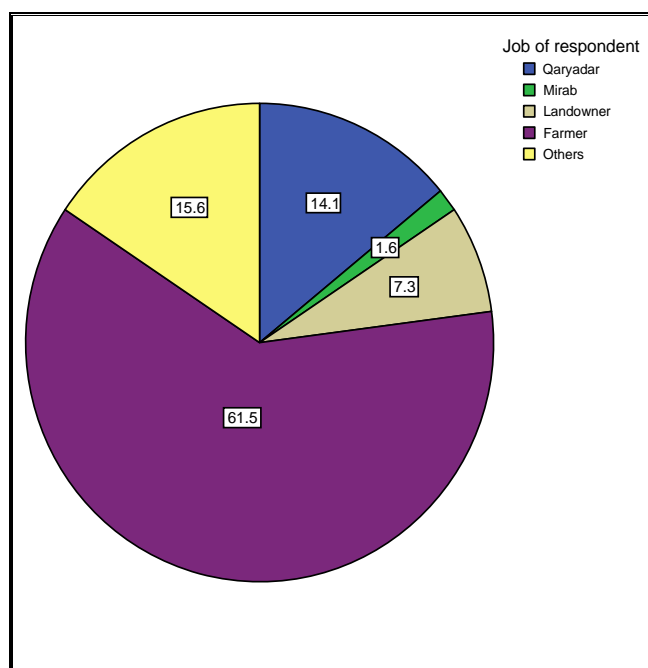


Figure 2: Categories of the Respondents

The respondents come from 62 turn-outs of Injil Canal. These turn-outs are located at upstream, middle and downstream of Injil Canal.

3. FINDINGS

3.1 Operation of Injil Canal

In answering to the question as to how Injil Canal is operated a vast majority of the respondents stated that Injil Canal is not a government irrigation system but rather it is a locally constructed and operated one. So distribution of water as stated by some respondents is still done on the basis of Jami book as there is no formal governmental regulation.

With regard to the question as to whether water right is changed during the year or not, half of the respondents have not answered it. On the other hand, a great number of the respondents (45%) specifically answered the question by saying that water right is changed during the two seasons of the year and a small number (7%) of the respondents said that there is no changes in water right.

3.2 Water Distributors

A vast majority of the respondents (70%) said that distribution of water is done by Wakil, Mirabs of Injil Canal and Qaryadar. Some of the respondents pointed out that distribution of water take place with cooperation of government. The details with regard to their election, qualification, tenor of responsibilities and wages are discussed below.

3.2.1 Election

In answering to the question as to how Wakil, Qaryadar and Mirabs are elected or appointed the respondents are almost unanimous that they are elected by the people. Once they are elected by the people, the election has to be confirmed by Wuluswali (sub-governorate). The Wuluswali in confirming their election has to consider people's view. The issue of their election will be referred to the respective local court after confirmation by the Wuluswali. The local court will issue a legal document (Wasiqa Shar'i) thereupon they get official recognition.

Wakil's responsibility is not limited to one area under Injil Canal but rather he is Wakil for the whole Injil Canal. He is responsible to distribute water to all water users of upstream, middle and downstream of Injil Canal. He has to coordinate water distribution with Mirabs and in some cases with Qaryadars.

Qaryadar's responsibility is generally to take care of the whole affairs of his village or the villages that he represents them. He represents his village or villages when qaryadars of other villages, Wakil and Irrigation Directorate discuss water related issues and disputes and make decision on them.

Mirabs are responsible for actual delivery of water to irrigators. There is no uniform rule for election of a Mirab. Mirab is normally elected in downstream on the basis of Zawj and one Mirab is elected for each fifty Zawj and one Mirab is elected at the middle stream. Mirab at the upstream is elected for several turn-outs, depending on their performance. Currently, there are eleven Mirabs at Injil Canal.

Wakil and Qaryadars hold meeting twice per month at Wuluswali. Mirabs do not have a regular meeting but in discharging their duties they hold meeting on the basis of the need that may arise.

3.2.2. Qualification

In answering to the question as to what criteria and qualification water users take into account in electing a person as Wakil, Qaryadar and Mirab, the vast majority of the respondents (82%) said that to them the religiosity quality of a person, having experience and being just are important qualities that are taken into account in electing Wakil, Qaryadar and Mirab. On the other hand, a small number of the

respondents pointed out intelligence, knowledge and literacy as that are taken into account at the time of election.

3.2.3 Tenor of Responsibility

With regard to the question as to how long Wakil, Qaryadar and Mirab are elected, respondents (90%) generally said they are elected for one year and eligible for re-election if they perform well. So a Wakil, Qaryadar or Mirab may be elected for several terms. To some respondents, as they said, duration is not important but what is very important is performance. As such, it may be concluded that there is no time frame limitation with regard to tenor of responsibilities of Wakil, Qaryadar and Mirab. A person can be elected as Wakil, Qaryadar or Mirab so long as their performance is to the water users/ villagers who elect them is satisfactory.

3.2.4 Wages

Wages of Wakil, Qaryadar and Mirabs are all paid annually by people on the basis of jareeb of agricultural land that they own and irrigate them from Injil Canal. Payment is generally made in kind. Wakil is paid two kilos (half mann) of wheat per jareeb by all irrigators and landowners of Injil Canal. Mirab is paid by people of a particular area or areas two kilos of wheat per jareeb. Both Wakil and Mirab receive two kilos of wheat per jareeb. However, the difference is that Wakil is paid by all landowners and irrigators of Injil Canal while Mirab is paid solely by people of a particular area or areas. Qaryadar receive four kilos of wheat per jareeb from his respective villagers.

3.3 Conflict Resolution and Decision Making

Different types of conflicts may arise among water users. The conflict may relate to the timing and water turn, or to the collective work (Hashar) or contribution to be made for maintenance or rehabilitation of the irrigation system. Sometimes, the conflict may be related to water right.

The respondents in answering to the question as how they usually resolve a conflict has given the following answers that can be seen in the chart below.

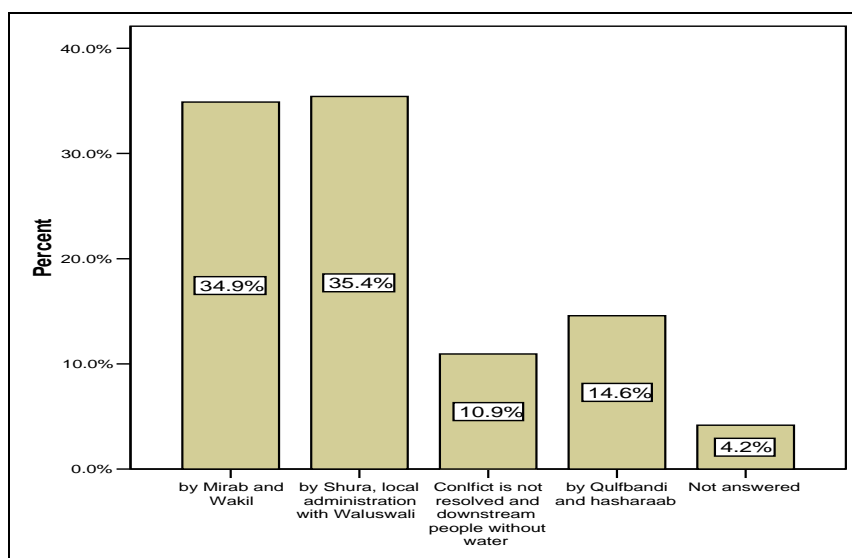


Figure 3: Variety of Ways of Conflict Resolution

It is understandable from the views expressed by the respondents that more often a conflict is resolved between water users by Mirab and Wakil of Injil. If it is a conflict of bigger nature it may be referred to shura, local administration and even Wuluswali. If a conflict is as a result of scarcity of water it is resolved by closing well turn-outs (qulfbandi) and making collective effort for giving water (hasharaab) to water users especially to the downstream. In some instances conflict over water is not resolved and as a result people in downstream of the Injil Canal remain with no water.

Wakil, Mirabs of the Injil Canal and Qaryadars play leading role in making decision on water related issues. People of the locality and even Irrigation Directorate (Moderyat-e Abyari) may be involved in some instances. Decision is normally taken on majority view.

3.4 Maintenance and Rehabilitation of the Irrigation System

Respondents were asked to give their view as to whether their irrigation system is well maintained or not. The variety of views expressed by them is seen at the chart below:

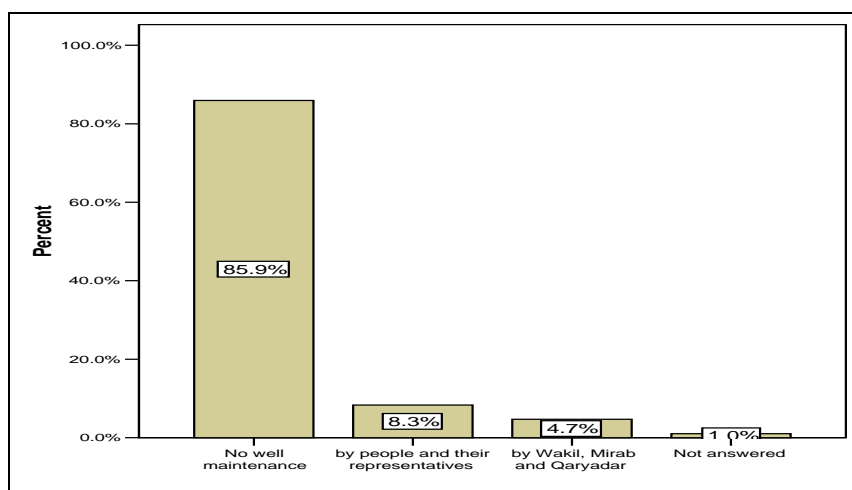


Figure 4: Respondents' Views on Maintenance of Irrigation System

Maintenance of the irrigation system is not satisfactory to the vast majority of the respondents as about eighty six per cent of them averred that irrigation system is never well maintained. A small number of the respondents (8.3%) said that to some extent maintenance of the irrigation system is taken care by people and their representatives. However, only a few respondents (4.7%) stated that maintenance of the irrigation system is well done by Wakil, Mirabs and Qaryadars.

3.5 Adequacy of Laws and Regulations

Water users were asked as to whether the present laws and regulations are adequate enough to cater for the needs of the water users or new laws and regulations are needed to be enacted. As it can be seen in the chart below that the vast majority of the respondents stated that the present laws and regulations cannot cater for the needs of the water users. A small number of the respondents said that water users should act upon the Jami's book while some of them said that Jami's book to be enriched with new additional information.

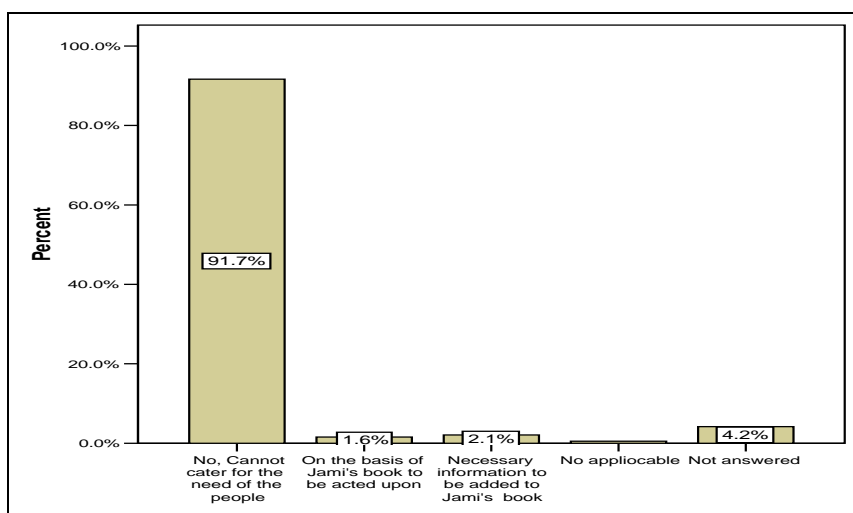


Figure 5: Views of People on Laws and Regulations

3.6 Respondent's Views on Efficacy of Water Management

Respondents were asked as to what they propose for water management to become effective. It is interesting to see in the chart below that almost half of the respondents see effective water management from perspective of establishment of Water Users' Association. A considerable number of them (37.5%) said that broken Qulf (turn-outs) to be repaired and canal to be cleaned. A small number (9.4%) of the respondents said that water laws and regulations to be enacted.

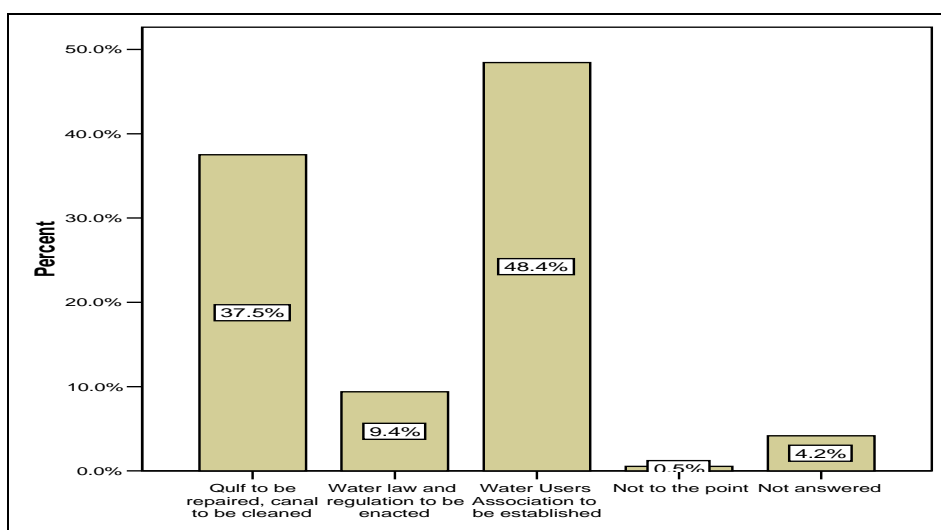


Figure 6: Respondents' Views on Water Management

All these answers have a bearing with increase of water and efficacy of water management. In other words, water is managed effectively if there is an irrigation system in good physical condition and law and regulations and institution to implement them.

3.7 Prevention of Unlawful Use and Wastage of Water

The respondents in answering to the question as to what measures should be taken for prevention of wastage of water have expressed a variety of views that can be seen in chart below. A vast majority of them (66%) are of the view that unlawful use of water can only be prevented if laws and regulations are enacted and enforced. On the other hand, other respondents have provided not a direct answer to the question but proposed that the illegal turn-outs (Qulfs) and diversion channel to be closed.

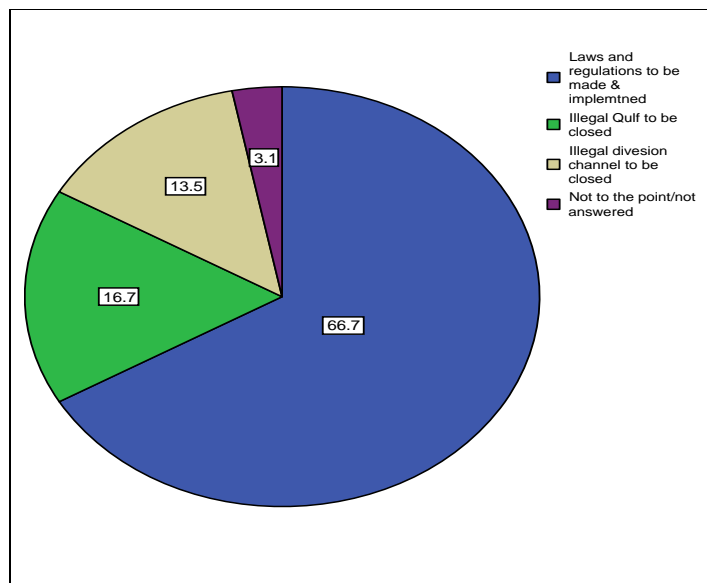


Figure 7: Respondent Views on Prevention of Unlawful Use of Water

With regard to the question as how wastage of water can be prevented, the majority of those who answered the question, as can be seen in the chart below, said that canal, intakes, turn-outs and sub-laterals are to be constructed professionally. On the other hand, a small number of them said that laws and regulations are to be enacted and implemented

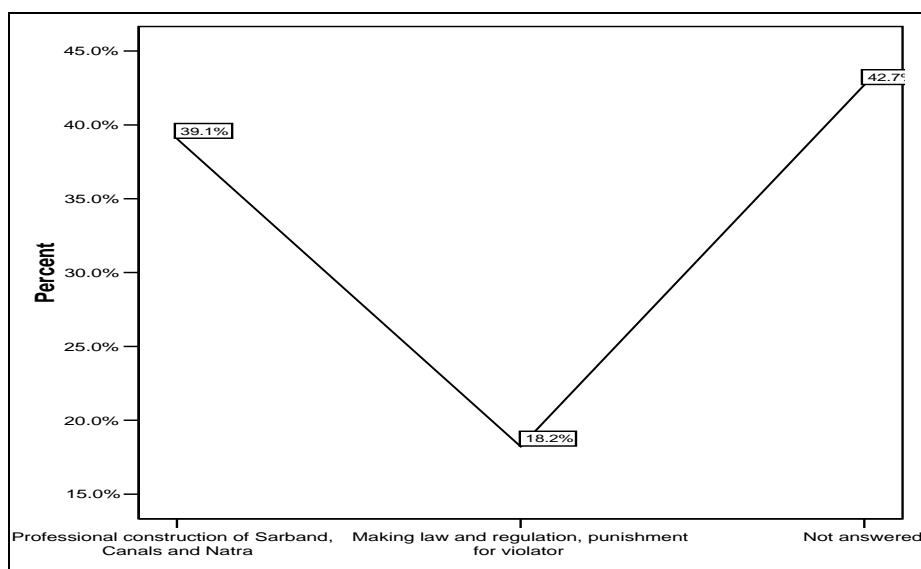


Figure 8: Respondent's Views on Prevention of Wastage of Water

Majority of the respondents are also of the view that religious scholars through preaching can play a greater role in preventing wastage of water. On the other hand, a small number of them said that local administration with cooperation of people and water users' association can play a role in preventing water wastage.

The End

APPENDIX VII

Summary of the Workshop on Water Users Associations (WUAs) by Development Alternatives Inc. (DAI)/RAMP 13 February 2005 at the Ministry of Energy and Water Resources

Development Alternatives Inc. with the cooperation of the Ministry of Energy and Water Resources held a one-day workshop on the development of Water Users Associations (WUAs) for the Nad-i-Ali and Marja districts of Helmand province. The workshop was part of DAI's plans and activities to get expert view on the feasibility of developing WUAs in the above mentioned districts. The attempts to form WUAs in these two districts are the first of its kinds in the country.

Why in Marja and Nad-i-Ali?

As mentioned, establishing WUAs is a new attempt and a new idea in the country. The project is the pilot phase of a larger attempt to develop WUAs countrywide. For a pilot project to succeed, it is pivotal to choose a more conducive and favorable environment.

Nad-i-Ali and Marja provide us with this ideal situation and location. These two irrigation projects were developed on virgin desert land by designing and constructing irrigation, drainage, road systems and land leveling for farmland. The areas are served by the Boghra canal from a diversion dam and canal intake structure at Girishk and numerous canal water control and gate structures and turnouts. Water is delivered from the main canal, laterals, sub-laterals and farm ditches to the farmland.

The whole irrigation system is well designed and built, and is capable of delivering the needed quantities of irrigation water to the farmland if the system is well maintained, operated and managed. The farm units were laid out in these areas by leveling the land for efficient irrigation and high agricultural yields by the farmers. Plans are available at HAVA for all land development, irrigation and drainage systems in the Nad-i-Ali and Marja areas.

Since the land development and irrigation, drainage, road system and farm unit plans are available, the establishment of WUAs for irrigators and farmland under the hydraulic command of lateral canals, sub-laterals and farm ditches can be laid accurately for receiving full service of water delivery to each farm unit. All this is conducive to the formation of sub-lateral, lateral and canal WUAs, for well balanced representation by the beneficiaries and the formation of an efficient water service organization.

In other areas where the irrigation system were gradually built by the land owners over many years, in most cases, well laid and detailed plans are not available. For the formation of a well represented WUA it will be necessary to make irrigation layout

plans on an as-built basis before WUAs could be established. The preparation of these plans will require more effort and time.

The Nad-i-Ali and Marja Irrigation, drainage and road systems were planned, funded and developed by the Government of Afghanistan under its delegated authority the HAVA. Since the existing Mirab system is quite similar in all parts of Afghanistan, including in the Government Owned systems, such as the Helmand Valley Project, we believe that the model of WUA developed for Government Owned irrigation systems would be applicable to People Owned irrigation systems, also.

The only difference is the question of transfer of ownership of irrigation system infrastructure. In Government Owned systems the Government would transfer the operation and maintenance of the irrigation and drainage system to the WUA, but keep the ownership of the infrastructure with a caveat that WUAs will be given the right to make changes or improvements to the infrastructure upon approval by an authorized Government Authority or the Department that planned and constructed the facilities in the first place.

People Owned irrigation systems were built by land owners in many years in the past. The ownership of the system belongs to all of them. In other words the system is Publicly Owned. The Mirab or the WUA is responsible for operation, maintenance and any future changes or improvements to the infrastructure. Approval for this work will need to be authorized by the Board of WUA.

Therefore, the model of WUA developed can be applied to both Government Owned and People Owned irrigation systems. For WUAs in Government Owned systems will need to be given authority by a responsible government entity for improvements as discussed in the above.

Background

Afghanistan has a traditional system for the management of irrigation water called the *Mirab* system. The *Mirabs* are the water masters vested with the responsibility for deciding the distribution of irrigation water to the farmers and handling the maintenance and operation of irrigation infrastructure. However, the *Mirab* system does not have the organizational and institutional capability and a legal entity to efficiently respond to the rising needs of the farmers. Although the *Mirabs* are elected by the water users and land owners, they do not have transparent mechanisms and procedures for handling funds.

The WUAs will be established to serve as an independent and **legal entity** with full autonomy and authority for the distribution of irrigation water collection and utilization of funds.

DAI began its work on establishing (WUAs) in Middle Helmand province on 1st November 2004 from funding under USAID/RAMP/Chemonics.

The project encompasses the establishment of WUAs in Middle Helmand. It sanctions the formation of WUAs in Marja and Nad-i-Ali districts in Middle Helmand where the rehabilitation of the irrigation water and drainage system infrastructure is

underway. Depending on the number of water users under the hydraulic command of irrigation systems and canals, DAI will determine the number of WUAs to be set up in each area.

The workshop on WUAs

The Workshop was organized with the specific objective of reaching a consensus on the type and model of WUA for Helmand. A number of experts from various organizations and departments discussed the concept and analyzed the feasibility of developing WUAs in Middle Helmand province. The presentations and discussions focused on;

- The *Mirab* system and identify aspects of reform.
- The types and models of WUAs experienced in other countries.
- The structures and functions of the WUAs in the context of Afghanistan.
- The steps for developing the WUAs in Afghanistan.
- The existing legal framework and regulations.
- The scope and development of a charter for WUAs.
- The scope of WUAs rights and responsibilities.
- The difference between the *Mirab* system and a WUA.
- The role of government and its relationship with the WUAs

Workshop Discussions

The workshop took place following two developments in the project cycle. First, completion of a study and analysis of the existing legislation on water laws, government management approach and new regulations. Second, a fact finding survey in the three districts of Marja, Nad-i-Ali and Lashgargah. These two developments which were undertaken by the DAI team furnished us with the necessary knowledge and information for formulating a model, or models, of WUAs in the three districts. In the following we report on the discussion that took place on the two studies presented in the workshop.

1. The Scope of Afghanistan Water Laws

Land laws were legislated in Afghanistan in 1960 and 1965 and implemented in certain development areas, but there was no water law to detail the management of irrigation water until recently. Currently, the Law on the Use of Water Resources, which will be referred to as Water Law henceforth, was enacted in 1370 (1991) and is in force until now. This law has seven chapters and 54 articles. It provides rules and regulations with regard to use of water, management, operation and maintenance of irrigation systems. Article 53 of the Water Law states that a “regulation on the use of water for agriculture” is prepared in four chapters and 39 sections.

The law describes two types of irrigation systems in Afghanistan, *government and private*. The water law allows installation of irrigations systems, Karezes, water points, water pumps and other water installations by government as well as mixed, by cooperative or private sector (Art. 7)

Government irrigation systems are those irrigation facilities that are built by government like in Helmand and Arghandab and Jalalabad. Management of government irrigation systems is the responsibility of government ministry responsible for water resources management [(Art. 17(1)].

Expenditure for repair and maintenance of irrigation systems will be paid by the respective government ministry (Art. 14). However, in practice maintenance of government irrigation system especially of the Helmand project in the past years was not funded by the Government, and as a result O&M costs were borne by water users themselves.

Private irrigation systems refers to those irrigation infrastructure where canals and water streams are built by the people of a particular locality. Management of private irrigation systems will be done by user groups which is managed by Mirab Bashi and Mirab (water master) [(Art. 17 (2))]. Expenditure for repair and maintenance and rehabilitation of private irrigation systems will be paid by the water users [Art. 14 (2)].

Water distribution in government irrigation systems is governed by Water Management Department according to an approved plan. And in private irrigation systems user group committees are responsible for water distribution headed by the Mirab Bashi and Mirab. (Arts. 26 & 29). The “regulation on the use of water for agriculture” is distributed in accordance with ownership documents, irrigation norms or water rights in accordance with the local tradition.

In each particular irrigation system irrigation, distribution and utilization of water will take place according to existing norms for use and distribution of water. If there is no irrigation norms water will be discharged by irrigation department to the main canal on the basis of Mirab Bashi or Mirabs’ request in which command area, types of plant, general water rights and number of water users are mentioned. Distribution of water in traditional irrigation system from main canal to branch streams will take place by Mirab Bashi and thereafter distribution will take place by Mirabs or members of water users committees on turn basis.

On *Resolution of issues related to water* the law postulates that all issues related to users’ right, distribution and utilization of water will be resolved by Mirab Bashi and Mirab as representatives of water users and report it to the general meeting of water users. (Art. 27). Also, Art. 49 of water law states that, “Differences among farmers and other citizens on distribution and use of water in agriculture will be resolved by Mirab and Mirab Bashi with participation of both parties to the dispute.

In case, the parties to the case do not accept the resolution, the matter will be referred to the Committee of Water Users. Art. 50 stipulates that if the differences is not resolved by the committee, the matter will be resolved by district authorities, if the dispute is among water users of a particular district. The dispute should be referred to provincial authorities if the conflict is between water users of different districts. And the case of disputes over water that involves water users of different provinces should be referred to relevant government ministries.

The “regulation on the use of water for agriculture” specifies the duties and responsibilities of Mirab Bashi and Mirab as follows:

- Control of the activities of members of farmer water users committee;
- Continuous supervision over intakes, canals and other respective irrigation infrastructure;
- Organizing community work for cleaning canals, and strengthening traditional intakes and other maintenance work;
- Control and supervision of distribution and use of water among respective area of users;
- Attracting government and private assistance for funding construction and irrigation installations;
- Report to the water users on the activities between two meetings;
- Instructing farmers on the effective use of water resources and preventing agricultural land from becoming water logged and salty in cooperation with government local organizations;
- Accomplishment of undertakings vis-à-vis government on the sale of excess of agriculture products in accordance with the provision of the agreement;
- Fair distribution of water in accordance with fixed irrigation norm and in its absence according to local tradition;
- Giving proposals to the provincial irrigation departments on the design and preparation of plans of work for the respective rehabilitation of irrigation systems;
- Cooperation with provincial irrigation departments on annual plans for protection, maintenance and repair;
- Cooperation with provincial irrigation departments on plans for use and distribution of water;
- Making effective and economical use of the construction and installation in irrigation systems;
- Determining types of community work for cleaning and repair of the irrigation systems, duration of implementation and specifying share of work for each users in accordance with water right (حقابه);
- Transfer of technical instruction from government ministries to the farmers;
- Cooperation with provincial irrigation departments on monitoring the implementation of construction, repair, protection and maintenance work;
- Participation in contract between farmers and government departments;
- Cooperation with provincial irrigation departments for the implementation of approved plans;
- Cooperation with provincial irrigation department in gathering the necessary data on the respective irrigation system;
- Resolution of difference between upstream and downstream farmers;
- Provide linkage between farmers and provincial irrigation departments.

Mirbas are also responsible for organizing water users meeting for discussing issues related to water. The water users meeting will be organized in different intervals. Two types of meetings are mentioned in the Water Law as well as Regulation on the Use of Water for Agriculture: They are *committee meetings* and *general meetings*.

A committee consists of authorized representatives of water users in a particular irrigation system that is elected in general meeting of water users for specific period

of time. Committee meeting of water users will be organized by Mirab Bashi or Mirab for resolution of the issues related to the use of water at least once per month (Art. 32).

General meeting of water users will be arranged by Mirab Bashi or Mirab at least twice a year. In general meeting, representatives from executive committee of members, water management and agriculture department will participate (Art. 33).

Art. 33 of Water Law and Regulation on the Use of Water for Agriculture specify certain issues that are normally discussed and decided in general meetings, as follows:

- Selection of Mirab Bashi and Mirab and members of water users committee for specific period of time;
- Decide wage for Mirab Bashi and Mirab;
- Evaluate and approve Mirab Bashi and Mirab proposals regarding water distribution between users during irrigation season;
- Decide on the type of community work (ashar) regarding cleaning, repair of the irrigation system, duration and volume of work for each year.
- Approve contracts between agencies regarding construction and rehabilitation of irrigation system
- Approve request for credit from Agricultural Bank for repair and maintenance of irrigation system;
- Hearing reports from Mirab Bashi and Mirab briefing on water distribution, expenditure of credit that has been taken from Bank and the result of group work in irrigation systems;
- Evaluation of other issues that need collective decision.

2. Facts Finding Survey

DAI conducted a fact finding survey in Nad Ali, Marja and Lashkargah. The purpose of the survey was to find out on how the local water users managed the day to day distribution of water. The survey team used interviews and questionnaires for this purpose. About 60 per cent of the interviewees came from Nad Ali, 36.7 per cent from Marja and 3.3 per cent from Lashkargah.

The questions were formulated to find out the local peoples view on a number of issues including water distribution, prevention of illegal use of water and so on.

On Method of Distribution of Water, about 19.7 per cent of the interviewees have said that distribution of water in general streams (turn-outs) in government irrigation installations is done by Directorate of Irrigation (Amiriyat Abyari). Distribution of water at lateral and sub-lateral level is done on the basis of *cubic feet per second* and measured in inch as stated by 1.6 per cent and 13.1 per cent of the interviewees respectively. Then, water is distributed by mirabs on jirib basis per hour that is answered by about 50 per cent of the interviewees. However, no unanimity is seen with regard to hour and jirib basis for some interviewees (1.6%) said that ten hours is allocated for 30 jiribs and thus one hour is allocated for three jiribs. On the other hand, some other interviewees said that two hours is allocated for eight jiribs and five

hours for one form (فورمه), i.e., 30 jirib. The reason for this variety of answers can be explained by reference to level of land. If the level of land is higher in relation to the water in the irrigation ditch it takes more time as water flows slowly and if the level of land is lower, it takes less time as water flows faster.

A small number of interviewees have a negative view on government irrigation system. They (1.6%) said that the government irrigation system is collapsed because drops are broken and water is not controlled. Yet, a number of interviewees (14 %) have not answered at all or have not given specific answer about distribution of water.

With regard to the question as to whether the right to water changes during the two seasons or not, interviewees answers can be grouped in two categories. About 35 per cent of them have said that the right to water does not change because water is distributed on local tradition and practices that is on the basis of jirib per hour. On the other hand, about 28 per cent of them, mostly from Marja district, said that (right to water change when water there is shortage of water)?. About 5 per cent of them provided some explanation on water distribution that, in spring and summer water is needed for irrigation purposes after 8 days, while in autumn after 15 days. About 38 per cent of the interviewees either have not answered the question or their answers were not specific to the point.

Regarding the question *on the Prevention of Illegal Use and Wastage of Water*, and how wastage of water and illegal use of water can be prevented, interviewees have provided a variety of answers that can be categorized as follows:

Repair of the Irrigation Installations: Majority of the interviewees stressed the need for repair of the irrigation installations. They emphasized building culverts, repair of meter gates, repair of main gates, putting up locks at gates, repair of reservoirs, desilting and maintenance of streams and canals.

Role of Nigarans and Mirabs: A number of interviewees emphasized on the role of Nigarans and Mirabs in preventing of water wastage. They stated that if Nigarans and Mirabs have good supervision over drops and meter gates, so that, they are controlled and closed properly water wastage can be prevented.

Effective Distribution of Water: A small number of respondents held the view that if water is distributed in turns it will not be wasted.

Collective Effort: Some interviewees wrote that collective efforts should be taken by Nigarans, Mirabs, watchmen, landowners and farmers for the prevention of water wastage. On the other hand, some said such effort is already being taken in Boghra canal.

Effects of Rules and Regulation: Some of the interviewees acknowledged that having new rules and regulations can help the reduction of water wastage. According to them there are some powerful people who use water at night illegally and there is no law, on the basis of which such person can be questioned and punished. Therefore, new law is needed to regulate affairs related to irrigation such as cleaning of streams and canals on time and to provide punishment for those who use water illegally.

Removal of Irresponsible Persons: Few interviewees said that there are some irresponsible armed personnel in power and they should be removed and their power is to be given to the right person.

Establishment of a Commission: Some interviewees proposed establishment of a commission with cooperation of Agricultural Department (Riyasat Ziraat) and Directorate of Irrigation (Amiriyat Abyari). It should be established at the provincial level and should be responsible for control of Boghra canal main turn-outs and locks on weekly basis.

Removal of Illegal Locks and Water Pumps: Some interviewees said that illegal locks and water pumps to be removed and illegal turn-outs to be closed. Some others said that a Directorate of Irrigation to be established and should be equipped with transportation in order to prevent illegal use of water.

Role of Local Administration and Ulema (religious teachers): With regard to the question as to what role local administration and *ulema* can play in prevention of wastage of water, interviewees emphasized very much on the role of *ulema*. The vast majority of them said that *ulema* can play a greater role in prevention of water theft and wastage. Their advice is very important and they should tell the people that using other's water right, and excessive use of water is not permissible in Islam. Some interviewees mentioned the role of district (wuluswali) authority and the role of local administration, but there is a view that a committee should be established at each locality for assessment and prevention of water wastage.

Resolution of Conflict: Conflicts related to water is resolved in variety of ways. Sometimes, the conflict is resolved by Mirabs but most often it is resolved in council that is held either locally or sometimes at the Directorate of Irrigation.

Election of Mirab: All the interviewees said that mirabs are elected by landowners. Hence, government departments have no direct role in electing a person as mirab. However, a large number (36%) of the interviewees said that once a person is elected as mirab by landowners then Directorate of Irrigation is informed of his election and he is registered there as mirab. Then the Directorate of Irrigation is most often in contact with Mirabs through its supervisors in distribution of water and other matters related to water and irrigation systems.

Seventy seven per cent of the interviewees said that mirabs have no official position at government departments. However, they are recognized as representatives of landowners of a particular stream.

All interviewees said that a mirab is elected for one year and if he performs well he will be elected for second time and goes on and there is no limitation in his terms of service, that is why, there are persons who are mirab for many years.

It is also evident from the answers given by the interviewees that mirab is usually elected at the month of Mizan.

Qualification of Mirab: The qualification of mirabs is explained in a variety of statements. A person can get the mandate of landowners as mirab only if he is active,

honest, just, knowledgeable, trusted and liked by people who can serve best his people. If we look at the Chart below we realized that interviewees emphasize much honesty, service and acceptability by landowners.

About Mirab's Wages: Almost all interviewees stated that mirab's wages is paid by landowners. Almost half of the interviewees said that mirab's wage is paid in kind, i.e., wheat on the basis of jirib. However, no uniformity is seen in the amount of payment. Some interviewees said that mirab is paid 10 mann (1 mann = 10 lbs) of wheat per Form (Settlement Office Form) (فورمه), while others said 12.5 mann of wheat per Form and even some other interviewees said mirab is paid between 10 to 15 mann of wheat per Form. One mann is equal to 10 lbs, and is equivalent to three *charak* or four and half kilos.

It is evident from the ranges of answers provided by the interviewees that the amount of mirab's wages depends very much on the agreement between landowners and a mirab, and related to the area of land under the hydraulic command of the irrigation system.

Mirab's Council: The data shows that mirabs have a variety of councils. Sometimes, this council is held between mirabs of upstream and downstream areas of the canal system. On some occasions, it was said that Mirabs' Council is held weekly which is participated by Supervisors of Directorate of Irrigation and elders from the locality. A number of interviewees said that mirabs have a weekly or bi-weekly or monthly gathering at Directorate of Irrigation (Amiriyat Abyari) for resolving the problems related to water.

Major Decisions on Irrigation Matters: Many parties are involved on irrigation matters such as landowners, mirabs, farmers and Directorate of Irrigation. The chart below shows that decision is taken at various levels. Sometimes decision is taken by Mirabs on irrigation matters as discussed above while on bigger matters elders of the community also take part in decision making process. Sometimes, decision is taken by farmers, mirabs together with supervisors of Directorate of Irrigation. On another occasion, decision is taken by Directorate of Irrigation especially on matters related to the main canal, and canal supervisors and Mirabs take necessary steps for implementation of the decision. The data shows that, normally, decision is taken on majority basis.

Maintenance of Irrigation Installations: Interviewees have given variety of answers to the question as to whether currently irrigation installations are well maintained. The chart below shows that half of the interviewees said that currently irrigation installations are not maintained well. Eighteen per cent of the interviewees said mirabs, farmers, supervisors and watchmen collectively play role in maintenance of irrigation installations while 13 per cent of them said that maintenance is taken care of by the Directorate of Irrigation. A small number of them said that maintenance is taken very well without elaborating on it.

Two kinds of contribution from water users are mentioned, i.e., in terms of finance and work. Thirty four per cent of the interviewees said that when there is need money is collected from farmers and landowners on jirib basis for maintenance of irrigation

installations. Surprisingly, a small number of them (4.9%) mentioned that collective labor work (*ashar*) is usually undertaken by the water users.

About sixty two per cent (62%) of the responses indicate that some streams, drains, canals and drop structures that are destroyed during the past years can't be repaired by human power, and their repair requires machinery. It also can be seen in the following chart that 25 per cent of the interviewees stated that small canals can be constructed and cleaned by human power while big ones require machinery.

About 38% of the interviewees stated that technical matters related to distribution of water and maintenance of irrigation infrastructure require technical person. Twenty three per cent (23%) of the interviewees mentioned that professional engineer is needed for repairing of a number of steering boxes of main gates and gates of the main canals. About seven per cent of them observed that technical personnel of Directorate of Irrigation can have great role.

Adequacy of Law and Regulation: It is surprising that the vast majority of the interviewees (65.6%) are not aware of the water law as they said that, currently there is no law, and if such is to be enacted in the future it might fulfill the needs of water users. On the other hand, a small percentage (8.2%) of interviewees are satisfied with the current law, as they maintained that, the current law is very good but what is more important is its implementation.

Changes in Mirab System: About 37% of the interviewees stated that it would be good if good changes were to be brought to mirab system. About thirty two per cent of them held the view that if a new system is to be established and mirabs are given more authority so that they are independent in distribution of water, it would be very good.

After discussing the scope of the existing water law and the feedback from the field, the presentation of the workshop focused on explaining the framework and requirements for the development of WUAs. Dr. Thilo Hatzius and Dr. Puspa Raj Khanal two WUAs specialists discussed and explained the development of WUAs in other countries and drew lessons from them for Afghanistan.

1. WUAs in the context of Irrigation Management Transfer - Experience from other countries

Dr. Thilo Hatzius presented an outline of general conditions and requirements for development of WUAs. He drew from his and experiences in other countries.

He identified five conditions for successful Irrigation Management Transfer (IMT) as a result of various case studies:

1. A recognized and sustainable water right
2. Appropriate infrastructure relative to local management capacities
3. Clear designation of responsibility and authority for all essential management functions
4. Supportive accountability and incentive mechanisms and
5. Adequate resources (financial and human) for sustainable irrigation management

Supporting conditions to ensure the long-term viability of locally managed irrigation:

- 1) financial viability of irrigation agriculture,
- 2) long term physical sustainability of irrigation systems and water supply, and
- 3) strength of management organizations.

Goals of a Transfer Program (example from Mexico)

- ensure sustainability of the irrigation districts,
- reduce the financial burden on the government,
- pass responsibility for O&M to the users,
- increase efficiency of the use of water, and improve and sustain system performance,
- reduce the number of public employees in the irrigation districts.

Results (Mexico)

- more than 90% of the 3.3 m has of publicly irrigated land in the country has been transferred to joint management,
- WUAs have proven capable of operating and maintaining modules even up to sizes in excess of 50,000 has,
- water fees collected by the users have not only supported the module O&M activities but have also funded most of the O&M activities by agency staff at the main canal and water source levels,
- the number of agency staff has been reduced significantly. In most districts, the systems are being operated with less staff,
- in many cases the modules have recruited staff with higher levels of training,
- the elimination of unionized staff controlling O&M activities has removed one of the major complaints of the farmers,
- the ability to hire and fire their own staff has improved the responsiveness of the operational staff to the needs of the users.

General Conclusion

With increased O&M budgets, including more funds for maintenance and more responsive staff, the transfer program has created a situation which is much more sustainable than the situation in the irrigated sector before the transfer.

Additional changes required

- the system of water fees needs to be changed so that the districts develop a reserve fund for emergencies, future replacement, and rehabilitation,
- need to shift to a (dual water fee) system where the module collects a fixed amount to pay the costs of the staff and other facilities of the module as well as a volumetric fee to cover the variable costs of delivering water,
- it will be necessary to clarify the water laws to protect agricultural water rights.

Reasons for only limited impact on the improvement of management in some countries:

- management transfer was only partial
- lack of secure property rights in water
- lack of a legal basis for the effective collection of water fees and for imposing sanctions

Experience of Management Transfer in some developed countries with major agricultural water use

Devolution of management out of direct agency control puts a heavy burden on government capabilities for;

- legislation,
- regulation,
- control,
- sanctioning.

To ensure that the *interest of society* at large is respected and well taken care of, the delegated authorities have to be well embedded in a *framework of regulation and legislation*. It is however easily overlooked that the government needs to have the capacity

- to prepare these regulations,
- to monitor and police the implementation and
- to update the regulations as necessary.

This requires *highly qualified and skilled staff* that, unless the government can provide good career opportunities, is often better provided through the private sector.

For a regulatory function to be performed well, a system is required that

- enables effective development and implementation of laws and regulations,

- enables all stakeholders to participate in decision making and
- provides effective and transparent accountability mechanisms.

Main objectives of an irrigation management reform (experience from Nepal)

1. Improve operation and maintenance
2. Reduce government expenditure
3. Improve performance of irrigated agriculture

Main findings

1. The process of irrigation management reform was initiated by the government without consulting farmers on their future role in water management
2. However, a parallel political process of decentralization and introduction of a multi-party democracy in the country made farmers accept and use WUA as a platform to increase their economic and political power, to bargain and negotiate with the government and other institutions linked to water management.
3. The outcome has been different for different WUA depending on the size of the systems, prior experience with collective action, the social environment (conflicts, accountability of leaders, role of party politics etc.) and the financial viability of irrigation agriculture
4. Positive impact of the reform has mainly been on
 - improvement in water availability and water delivery schedules,
 - increase in irrigated area, and
 - change in cropping pattern.
5. The scale of the positive changes in the systems is inversely related to the size of service area (command area in case of the smallest 600 ha, the largest 8700 ha) i.e. the smaller ones performed better than the large one,
6. Outside recognition (central government and other institutions), visible support by the government, networking and formation of a federation on the national level were important for increasing the negotiating and bargaining power of WUA (involvement in everyday political process, but not in party politics!)
7. WUA should be viewed as political bodies against the often-assumed non-partisan, non-political role and projects supporting the forming of WUA should be linked to a continuous change and broader development process.
8. The importance has been recognized of not trying to fit the existing institutions to a set of designed guidelines but let the existing socio-political structure guide new institutional arrangements.

Central issues to be retained for discussing the concept and development of WUAs in Afghanistan

1. Financing of operation & maintenance is the crucial central issue, the main sources being irrigation service fees, income from other activities (cross subsidization within multi-functional organisations) and state subsidies.

2. There has been a lack of a legal base and procedures to assess, charge and execute irrigation service fees. As a consequence service fees cover only 20% of the cost of operation and maintenance.
3. The differential treatment of large (> 2000 ha) and small (< 2000 ha) irrigation systems with respect to the management transfer process and thus discontinuation of government subsidies to the smaller ones has been a source of conflict.
4. Technology and institutions in irrigation management are closely related. The design of a particular technology requires a specific organizational capacity to operate and maintain the system.
5. Political and institutional reform requires technical change. The technology has to be simple and transparent and farmers have to participate in the design process.
6. Farmers' choices of service pattern are driven by
 - ease of operation
 - workable institutions and
 - water availability.As these features are dynamic and differ from system to system, no particular set of technology is suitable for all situations.
7. The participatory approach has been used for the continued survival of the Department of Irrigation rather than promotion of self-governance and empowerment to farmer groups. Shifting the role of government agencies from implementor to facilitator requires more empowerment and responsibility on the part of local organization.
8. WUA have proved to be effective in bargaining and negotiating with the government but they fall short in the everyday management. This shortfall in contributing to the development and management of irrigation systems may weaken their control over management in the long run.

2. WUAs in Afghanistan Context

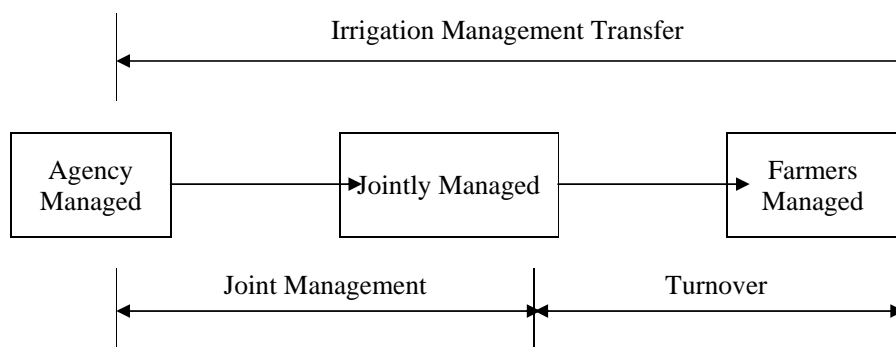
- Existing Mirab institutions and tradition of collective action in irrigation development and management are weak and are not sufficient enough to face the new challenges
- Irrigation system face challenges from Environmental degradation, physical damages, weak public and private sector;
- Ongoing infrastructure improvement brings new management requirement which the existing Mirab system is not capable to handle;
- Mirab institutions at various levels, (usually dominated by local power structures).
- Shift from Labor intensive to Cash intensive management;
- Lacks legitimacy, power and not attractive to new generation; youths does not seem to be interested in Mirabs job and therefore there is a need for a formal structure which can be achieved in WUAs.
- Requires new vision, leadership, technical and managerial skills and resources;
- Existing structure is weak in addressing new management requirement and setting up vision for future.

Modernizing the Mirab towards formal WUA: Necessary Conditions

- Policies, Acts, Rules and Regulations in Place
- Clearly defined Water Rights
- Compatible infrastructures
- Bureaucratic Reforms/ Commitments
- Appropriate Incentive (System, Rehabilitation, equipment, initial support etc)

Clarify Management Domain

There is a need to clarify the management approach to WUAs as to whether it will be agency managed, jointly managed or farmers managed. The following chart explains the possible types of management domains.



Structuring the WUAs

Possible types of organizational structure for WUAs in Helmand would be,

- Single Tiered or Multi tiered (Main committee, Branch committee, General Assembly etc)?
- Type, Size and Characteristics of the WUAs (appropriate size of lower unit, minimum nos of users);
- Unitary or Federated Model? (Freeman, 1986);
- Participatory (South Asian Countries) and Management (Mexico, Spain, Australia, South America, Turkey) Models;
- Functional and Political Models.

Design of the WUA

- Different layers of rules (Ostrom, 1992)
- Constitutional choice rules
- Collective choice rules
- Operational rules

- Membership criteria
- Setting up the boundary

Recommendations:

- Have necessary conditions in place
- Identify the existing Mirab institutions, and gaps in performing irrigation management activities;
- Structure the WUA Matching hydraulic geographic representation;
- Begin with Participatory Model, but with ultimate objective towards the management model;
- Balance unitary and federated structure.
- Allow wider networking among other institutions;
- Look at the possibility of expansion towards overall agricultural management (marketing, co-operatives besides water management);
- Follow a Learning process approach.

Financial Independence of the WUAs

After the two presentations focused on the WUAs development in general and in Helmand context, John Priest from RAMP introduced a perspective on the financial aspect of the WUAs. He contended that an important and one of the main and eventual objectives of developing WUAs is their ultimate financial independence. Therefore, the charter, model and management domain of the WUAs will be designed toward achieving this very objective.

Financial independence in the context of WUAs will lead to profitability as the associations will be motivated to work towards solicitation of financial loans from banks for major repair and operation maintenance of the irrigation systems which will increase their productivity and profits.

This will help achieve the larger objective of building the WUAs financial and organizational capacity to operate, manage and rebuild entire canal commands from the farm-gate to and including river intakes.

To this end, he stated that the objective this RAMP Institution Building program is to achieve the financial and organizational capacity to operate, manage, maintain and rebuild entire canal commands from the farm-gate to and including river intakes. To achieve this, we submit that the RAMP program is dedicated to the principle of rebuilding Agricultural markets. As such RAMP is viewing the agriculture of Afghanistan as a Value Chain of activity that extends from on-farm production to storage, transport, timely marketing, agro-business agreements, to processing and export.

These new developments and concepts necessitates the development of WUAs as the government as well as the Mirab system is not developed and sophisticated to handle these programs. The achievements of the marketing and processing of products and the agribusiness relations requires a more organized and capable organization, which can be found in the WUAs.

RAMP is supporting financial institutions that may be of assistance to the WUAs. The financial institutions include microfinance institutions; local bank; and leasing company. There are 12 microfinance institutions around the country that provide individual loans in the range of \$50-\$3,000. The bank is working with small and medium size businesses and offer loans specifically for agribusinesses in the range of \$50,000-\$500,000. The leasing company will design leases for agribusinesses to purchase equipment for mechanization and processing. WUAs would have to meet the criteria for financing products from these institutions to receive support.

Recommended Model

The workshop participants were unanimous in their view for adopting a Participatory Model for developing WUAs in Marja and Nad-i-Ali.

The general scheme for WUA is a four-level organization. At the bottom, there are small local organizations. The “locality water user association” has farmers that know each other and manage smallest branch canals or the ditch that serves their farms. There may be about 50 farmers in the locality WUA – perhaps only 15, or perhaps 60. They have to be able to walk to a meeting and all of the farmers participate. Farmers have complete control of the locality WUA.

The next level is the sub-lateral WUA. Each locality sends a delegation to the sub-lateral WUA, and once a year all the members come together to choose leaders and discuss programs. Farmers have complete control of the sub-lateral.

The third level is the lateral WUA, with perhaps five or more sub-lateral WUAs. The lateral WUA is an organization of representatives, and it is doubtful that all of the 5,000 farmers that it represents will ever meet together. Each sub-lateral WUA is represented in the meetings of the lateral WUA. Government and donors may meet regularly with the lateral WUA. Farmers have complete control of the lateral after a transition period.

Finally, for management of the whole canal, there is a Main Canal WUA with representatives of the Lateral WUAs. This WUA allocates water among the laterals, manages the intake, collaborates on a daily basis with the government. The main canal is controlled jointly by the Main Canal WUA and the government.

General Scheme for WUA Hierarchy

Type of WUA	Farmers	Number of WUAs in System	
Canal WUA	25,000	1	Represent all Farmers
Lateral WUA	5,000	5	Lateral WUA
Sub-Lateral WUA	250	100	Lateral WAU
Locality WUA	50	500	Local Village Irrigation Committee

The traditional mirabs must be the basis for any program of water management in Afghanistan, but they can be supplemented and improved by institution of water users' associations. Just as mirabs should be part of any WUA, so WUAs can do several things that mirabs cannot.

The following table summarizes how a WUA program can surpass even a program to work with mirabs. Both kinds of program are desirable. Where funds are very scarce, the mirab training may be the best option. Where funds for training and rehabilitation are available, the WUA (with mirab involvement) has an advantage.

Current Situation	Program to Train Mirabs	WUA
AOM: mirabs are effective, but there are continuing improvements and need for rehabilitation that pass their capacity to mobilize resources and manage work	Mirabs should certainly continue their traditional work and can collaborate with projects	Best able to implement and manage sustained improvements to AOM and rehabilitation
Trust: water users place very great emphasis on trust; there is some accountability through shuras; but mirabs mix use payments for public good and use for their income	Train mirabs on norms of improved management	WUAs are very good at accountability and will reduce abuse
Equity: there are pronounced differences in water availability in the systems	Some improvement possible.	WUAs are very good at equity issues
Investment: payments vary enormously within country and are only sufficient for minimal maintenance		Able to participate in generating resources
Technical aspects: mirabs are good implementers of traditional knowledge	Mirabs are able to absorb some improved assistance. Mirabs can coordinate better with outside expertise.	Associations can draw on better educated members.
Government planning	Mirabs should be consulted and formalized selection criteria will document their representative position.	Most legitimate representative of people's interests in water management.

A WUA will perform the following functions.

The participants pointed the following function to be performed by a WUA in Afghanistan.

- Represents farmers to government and civil society
- Improve water management and agricultural performance through AOM
- Bring in equity, better governance and accountability, participation and involvement
- Capture and use outside resources including rehabilitation
- Reduce government expenditures
- Reduce water-related conflict and enhance conflict resolution
- Participation in land and water planning and management
- Non-water agricultural development and link to extension
- Coping with emergencies be that social or natural and other water users
- Maintain water quality and environmental mitigation

END